THE

COMMERCIAL REVIEW.

Vol. VII, Old Series. OCTOBER, 1849. Vol. I, No. IV, N. S.

ART. I—THE LAKE AND VALLEY TRADE.

EXTENT OF OUR INLAND TRADE; TRADE AND TONNAGE LAKES, 1846; 1850 AND 1860; STEAM TONNAGE, TRADE AND NAVIGATION, WESTERN RIVERS; POPULATION OF LAKE COUNTRY, AND COMMUNICATION WITH MISSISSIPPI AND THE ATLANTIC; EXTENT OF LAKES; AMERICAN AND BRITISH MARITIME POWER ON LAKES, ETC.

No country in the world can be said to possess, in an equal degree with ours, the facilities for an extended *inland commerce* between its parts, and a *foreign commerce* between the whole and the other maritime and trading powers. First we have the Atlantic, with its deep bays and harbors, stretching nearly fifteen hundred miles along our shores. Then is added to us the Missisippi, that great "inland sea," whose sources alike ripple in the Rocky and the Alleghany Mountains, and whose tributaries drain an empire. The Gulf of Mexico, on our southern limits, is a boundless expanse. The Pacific for a thousand miles, has fallen into our possession. Upon our northern border flow the Great Lakes, which, as the centers of immense commerce, vie already with the old "Father of Rivers" himself. Never was nation so favored, in the history of man. Who shall wonder that, in the consciousness of maritime power, we have already become arrogant, and threaten, in imitation of the Dutch, to raise the broom to our masthead, as though we would sweep, with it, the seas.

Having given very full statistics, at different times, of the Atlantic commerce, the commerce of the Pacific, of the Gulf of Mexico, and the Mississippi, it occurs to us, we have not done full justice to the Lakes. We have, indeed, furnished several papers upon them, as will be found from our volumes; but not one appears, upon examination, sufficiently elaborate or satisfactory.* We, therefore, seize the present opportunity of a visit to these Lakes, and passage across them, to present what matter could be collected.

At the last session of Congress, Colonel Albert, being called upon to report such information as could be had by the Engineers' Department, in regard to the Lakes, presented a document of great interest and

* See Commercial Review, Vols. I, II, IV, V, VI, and especially the articles entitled, "Western Lakes," "Progress American Commerce," "Progress Great West"; also, Vol. VII, No. 1, article, "Communication between Atlantic and Pacific."

value, which, being official and of latest date, will form the groundwork of our present remarks.

The value of Lake commerce, in 1841, was

Imports,	$33,483,441
Exports,	32,342,541
	$65,826,022

Or, dividing this amount by two, since the exports of one place are the imports of another, we have $32,913,011, as the floating value of Lake commerce, in 1841.

TRADE OF LAKES, 1846—EXPORTS AND IMPORTS.

Oswegatchie District,	$180,555	ERIE.	
CHAMPLAIN.		Buffalo,	$48,989,116
Whitehall,	6,327,489	Conneaut,	380,475
Flattsburg District,	1,160,844	Ashtabula,	715,467
Burlington, "	3,777,726	Fairport,	819,584
ONTARIO.		Cleveland,	12,559,110
Sackett's Harbor District,	2,735,091	Sandusky,	5,943,127
Dexter Port,	484,575	Monroe,	9,519,067
Port Ontario,	423,724	Detroit,	8,706,348
Oswego,	9,502,980	Erie,	6,373,246
Big Sodus,	39,206	Black River,	215,040
Rochester,	212,926	Vermillion,	137,770
Pultneyville,	20,342	MICHIGAN.	
Niagara,	606,863	Chicago,	3,927,150
		Total commerce, 1846,	$123,829,821

Or, dividing, as in 1841, by two, we have a total of $61,914,910, having nearly doubled in five years, or, to be more accurate, increased seventeen and a half per cent. per annum. The registered, enrolled, and licensed tonnage of the Lakes, was:

TONNAGE, 1846.

Champlain District,	3,192	Cape Vincent,	2,230
Sackett's Harbor District,	4,279	Presque Isle,	2,993
Oswego "	16,046	Cuyahoga,	18,526
Niagara "	75	Sandusky,	2,864
Genessee "	769	Maumee,	3,163
Oswegatchie "	2,058	Detroit,	24,804
Buffalo "	24,770	Mackinaw,	1,067
		Total Tonnage,	108,836

having increased since 1841, in very nearly the precise ratio of the exports and imports. The whole number of clearances and entries upon the Lakes, was, in 1846, 15,855, and the number of tons of merchandise carried, 3,861,088, also an increase of over seventeen and a half per cent. per annum, since 1841.

It ought to have been observed above, that in the list of Lake ports and the amount of their trade, the following were omitted as not ascertained: Black Rock, Silver Creek, Irving, Portland, Huron, and Dunkirk, on Lake Erie; St. Joseph, Grand River, Kalamazoo, New Buffalo, Michigan City, Mouth of Calumie, Little Fort, Southport, Racine, Milwaukie, Sheboygan, and Manitowoc, upon Lake Michigan.

In addition to the American tonnage, the British have upon the Lakes, 46,575 tons, of which 30,000 tons are employed in the American trade—making the whole amount of tonnage in the American trade for 1846, 136,836 tons.

The value of this American shipping, in 1846, is estimated by one account $5,341,800, and by another, $6,000,000. It may be safely put down at $7,000,000, including the value of British vessels employed by us. The annual expenses upon all this shipping, including interest and insurance, is very near $2,000,000.

The Passenger trade of the Lakes amounts to about 250,000 per annum in numbers, and cost of carriage, perhaps, $1,250,000. The number of mariners employed, 6,972.

If we suppose that the same ratio of increase, has been observed since 1846, we may state the commerce of the Lakes, as compared now with 1841, as follows:

COMMERCE OF THE LAKES, 1849–50.

Exports and imports, increase 4 yrs. at 17½ per cent. per annum,	$105,255,347
Tonnage, " " " " " tons,	185,017
Tons merchandise carried,	6,536,844
British commerce employed,	51,000
Value American shipping,	10,200,000
Expenses " "	3,400,000
Passengers carried,	425,000
Receipts from passengers,	2,335,000
Mariners,	10,500

The Buffalo Advertiser has, however, furnished the following as the

TONNAGE OF THE LAKES, 1849

Ports.	Steamers and Propellers.	Barques and Brigs.	Schooners.	Sloops and Scows.	Total.	Tonnage.
Buffalo,	42	31	85	5	163	42,265,40
Presque Isle,	5	4	14		23	6,237,07
Cuyahoga,	10	23	55	17	105	22,949,86
Sandusky,	7	4	34	3	48	8,458,25
Miami,	4		11	2	17	2,921,27
Detroit,	43	9	109	36	197	23,609,83
Chicago,	2	13	55	1	71	11,387,42
Michilimackinac,	3		21	1	25	1,671,51
Lewiston,	1		8		9	753,11
Rochester,	2		6	1	9	1,298,00
Oswego,	13	9	80		102	17,813,01
Oswegatchie,	4		4		8	2,215,63
Cape Vincent,		1	8		9	1,708,63
Sackett's Harbor,	2	4	33		102	5,484,12
Camplain,	2		25	63	90	4,653,51
	140	98	548	129	915	153,426,62

BRITISH TONNAGE ON LAKE ONTARIO.

The comparative increase of steamers, propellers, and other vessels, owned on Lake Ontario, and employed on the inland waters of Canada, during the season of 1846 and 1847, was as follows:

	1847.	1846.
Steamers,	67	57
Propellers (lake and river),	14	13
Ships,	2	2
Brigantines (30 tons and above),	5	5
Schooners,	110	94
Barges,	300	300
Total,	498	471
Tonnage (aggregate),	63,346	56,380
Valued at	$2,750,000	$2,472,000

There were built on Lake Erie, during 1848, and to be in commission in 1849, the following *steamers*, viz.: At Sandusky, the Alabama of 1,200 tons; at Buffalo, the Keystone State, of 1,354 tons; at Detroit, the May Flower, of 1,300 tons; at Cleveland, the ———, of 1,300 tons; at Newport, the Atlantic, of 1,000 tons. And the following *propellers*, viz.: at Cleveland, the ———, of 450 tons, and the Troy, of 350 tons; at Buffalo, the ———, of 450 tons—in all, 7,404 tons.

TOTAL TONNAGE AND VALUATION.

45,067	tonnage of	steamers, valued at	$3,380,000
15,685	"	propellers, "	950,000
101,080	"	sail vessels, "	3 538,000
161,832			$7,868,000

In order to form any estimate of what the value of the Lake commerce, ten years hence, say in 1860, will be, it is necessary to consider the nature of the country which is tributary, "the region whose intercourse is facilitated by this commerce, the productiveness of the soil of the adjacent States; extent of that soil, and extent of lands yet unoccupied; the population depending upon the Lakes, as a means of communicating with a market already great and daily increasing; the agreeableness of the climate and its general salubrity; the character of the population, and of the foreign emigrant, to whom the Lake region is so great a favorite; the cheapness of the land," etc., etc. With these elements of progress at work, it cannot be unfair to argue, that the increase for the next ten years, will not be materially less than in the years from 1840 to 1846. Upon this basis, we construct the following table:

COMMERCE OF LAKES, 1860.

Value of exports, imports, and passengers,	$213,507,385*
Amount of tonnage on Lakes,	367,085
Value American shipping on Lakes,	$14,208,000

If we compare the results as furnished, with those from the Western Rivers, some instructive comparisons may be made.

* The net value is alone involved in this amount, that is, half the aggregate value of the exports and imports; since the exports of one place are imports of another.

STEAMBOAT TONNAGE WESTERN RIVERS.

	1842.	1846.
New Orleans,	80,993	——
St. Louis,	14,725	——
Cincinnati,	12,025	——
Pittsburgh,	10,107	——
Louisville,	4,618	——
Nashville,	3,810	——
Total,	126,278	249,055

In addition, it is estimated that in 1842, there were 4,000 boats of other kinds, flat-boats, etc., employed, with an aggregate tonnage of 300,000 tons, making the whole tonnage for that year 426,278 tons. It is supposed that the flatboats carried about 600,000 tons, and the steamboats 1,262,780 tons, making a total of merchandise transported on the Western Rivers, in 1842, of 1,862,780 tons. Estimating these tons as equally valuable with those of the Lakes, and it is thought they are more so, and we have Lake tonnage both ways, or duplicate enumeration, 3,861,088, divided by two, 1,930,544, worth $64,913,910, or $32.07 per ton: therefore the 1,862,780 tons of the River trade, with New Orleans, will be $69,739,354, for 1842. This is Col. Albert's calculation. The New Orleans returns, however, show a receipt at that city, in 1842, of 45,716,045, and in 1846–47, of 90,033,256 tons, being a little less than double in four years; but taking the average receipts from 1842 to 1845, viz., 54,184,484, and comparing them with average receipts from 1845 to 1848, 76,051,248, we have an increase of very nearly ten per cent. per annum. Col. Albert makes the per centage only about five and three-fourths per cent.—clearly an important mistake. A very respectable committee in Cincinnati, in 1842, estimated the aggregate trade on Western Rivers, exclusive of that of New Orleans, at $70,000,000. Supposing this to have increased at the same rate as New Orleans trade, we would have for 1849, $111,000,000, and the whole Western River trade, in 1849, $190,777,151 net; or a floating trade of double that sum, the exports of one town being the imports of another, viz., $381,554,362. If the passenger earnings be added, the *net* result of river trade will be swelled to nearly $195,000,000. The value of all the boats, in 1842, was $10,522,240. If they have increased in the same proportion as the trade of New Orleans, the present value per annum of boats afloat would be $20,000,000 nearly. The working expense of this craft, and sustaining it, is over one hundred per cent. on its cost per annum, or on $20,000,000 about $25,000,000. The boatmen on Western Rivers, in 1842, were 20,418: at ten per cent. increase, we have in 1849, nearly 20,000.

By another estimation based upon the increase of tonnage upon Western Rivers, which from 1842 to 1846 was twenty-four per cent., and supposing the same increase preserved since, we would have the value of river trade in 1849 $218,400,000, or including passengers, about $225,000,000 net, or a floating trade of $450,000,000, annually; that is, adding up the exports and imports of all the various towns.

The whole population dependent *entirely* upon these Lakes, Col. Albert estimates at 6,191,555 in 1846, or in 1849, probably 7,000,000;

but this is evidently much below the figure, since the West increases faster than the Union, and should rather be 8,000,000.

What the future population of the Mississippi Valley may be, and what the amount of its commerce, are questions of some importance, but in the discussion of which the imagination is not unapt to run wild and become bewildered. Even sober reason seems elevated upon the wings of fancy. Upon the calculation of Col. Albert, the Valley contains 666,666 square miles of good arable land. To people this region with the average of the fertile parts of Europe, 110 to the square mile, there would be a total of 73,333,260 inhabitants; with the density of France, 165.1 to the mile, it would be 110,066,556; and of Great Britain, 222.6 to the mile, 148,399,851. Immense periods may be required to produce this, but the result is more than practicable, even with *great* prosperity. If, however, the advances for the next twenty years are equal to those of the last six or eight, five per cent., we shall have, in 1870, 17,775,272 inhabitants in the great Valley.

The productions of these people will follow some fixed relation to their numbers; and if the productiveness of the region be considered, Col. Albert's calculation upon the basis of Professor Tucker, will appear reasonable, viz., as 8 is to 5: i. e., to every five per cent. increase in population, there will be an eight per cent. increase in production, reversing Mr. Malthus's rules. Taking the mean of the figures, found by the two estimates of Western commerce we have given for 1849, the amount for 1850 will be at least $250,000,000. Col. Albert estimates $274,000,000, and calculates the increase at eight per cent., viz:

Commerce Great West, 1850,	$274,459,816
" " " 1860,	494,027,668
" " " 1870,	889,249,802

The figures seem prodigious, but governed by the light of the past, it may be questioned whether we have a right to doubt. The most sober-minded and skeptical reader will not, however, venture to fix the population of the Valley, in 1870, at less than 15,000,000, and its commerce at 500,000,000, being little less than the whole Union now. The probable navigation by steam on the western waters tributary to the Mississippi, is estimated by Col. Long, of the Engineers:

MILES WESTERN STEAM NAVIGATION.

Mississippi and Branches.		Obion,	60	Big Black,	150
Mississippi proper,	2000	Forked Deer,	195	Bayou De Glaze	90
St. Croix,	80	Big Hatchee,	75	Bayou Care,	140
St. Peters,	120	St. Francis,	300	Bayou Lafourche,	60
Chippeway,	70	White,	500	Bayou Rouge,	40
Black,	60	Big Black,	60	Bayou Plaquimines,	12
Wisconsin,	180	Spring,	50	Bayou Teche	96
Rock,	250	Arkansas,	600	Grand River,	12
Iowa,	110	Canadian,	60	Bayou Sorrele	12
Cedar,	60	Neosho,	60	Bayou Chien,	5
Des Moines,	250	Yazoo,	300	*Missouri and Branches.*	
Illinois,	245	Tallahatchee,	300	Missouri proper,	1500
Maremec,	60	Yallabusha,	130	Yellowstone	300
Kaskaskia,	150	Big Sun Flower,	80	Platte River,	40
Big Muddy,	5	Little Sun Flower,	70	Kansas,	150

Osage,	275	Green,	150	Bayou Boeuf,	150
Grand,	90	Barren,	30	Bayou Maçon,	175
Ohio and its Branches.		Wabash,	400	Bayou Louis,	30
Ohio proper,	1000	Cumberland,	400	Tensas,	150
Alleghany,	200	Tennnessee,	720	Lacke Bistenaw,	60
Monongahela,	60	*Red River and Branches.*		Lake Caddo,	75
Muskingum,	70	Red River proper,	1500	Sulphur Fork,	100
Kanawha	65	Wachita,	375	Little River,	65
Big Sandy,	50	Saline,	100	Kiamichi,	40
Scioto,	50	Little Missouri,	50	Boggy,	40
Kentucky,	62	Bayou D'Arboune,	60	Bayou Pierre,	150
Salt River,	35	Bayou Bartholomew,	150	Atchafalaya,	360
				Total,	16.674

The population which depends upon the Lakes for a market, is embraced within eight States, viz:

Vermont,	177 278
New York,	608,116
Pennsylvania,	126,094
Ohio,	723 119
Michigan,	212 267
Indiana,	250 263
Illinois,	93,069
Wisconsin,	23,045
Total, 1840,	2,313,251
Add increase since,	1,256 625
Total, 1850,	3,569,876

The estimate is made upon an annual increase of five per cent. per annum, which was about maintained from 1840 to 1846.

The number of American steamboats on the upper Lakes, above Niagara, was in 1847, 62; propellers 18, barques and brigs, 59; schooners, sloops and scows, 319. The average tonnage of steamers being 400, propellers 328, brigs and barks 230, schooners 152, sloops, etc., 46. There were on Lake Ontario, at the same time, 8 steamers of average 277 tons, 10 propellers of 275 tons, 186 sailing vessels of 114 tons; on Lake Champlain 3,192 tons, not enumerated.

The whole amount expended by Government, from 1806 to 1845, upon improvements of the

Lake Harbors,	$2,790,500
Western Rivers,	2,758,800
	$5 549,300

The great Lakes are connected with the Valley of the Mississippi by—

1. *Illinois and Michigan Canal*, 96½ miles long, 60 feet wide, and 6 feet deep; locks 17; total lockage 158 feet. It connects the Chicago, which empties into Lake Michigan, with the Illinois at La Salle, 213 miles from the Mississippi. The Illinois is navigable all the year in flatboats, and 4 months by steam (the ice season being excluded).

2. *Wabash and Erie Canal.* This extends from Lafayette, about 378 miles above the Wabash mouth, where it enters the Ohio, to Toledo on the Maumee, adjacent to Lake Erie, and is 187 miles long. It

is intended to complete the canal from Lafayette to the Ohio River. At a place called *Junction*, this canal intersects the Miami Canal from Cincinnati. It is probable the Wabash and Erie Canal is now complete to Terra Haute, on the Wabash. The *Muskingum Improvement* extends to the Muskingum River, at or near Zanesville, and is 91 miles long.

3. *Sandy and Beaver Canal*, connecting the Beaver River with the Lake from the Ohio. 4. *Mahoning Canal*, being a cross canal of 83 miles long. There is a canal called the *Beaver and Erie*, 136 miles long, connecting with the Ohio 28 miles below Pittsburgh. The connection with Lake Ontario is by the Welland Canal in Canada, and with Ontario and Champlain by the New York canals. The points of union of these canals, then, with the Mississippi, are as follows: mouth of Illinois on the Mississippi, 40 miles above St. Louis; mouth of Wabash on the Ohio, 130 miles from the Mississippi; Cincinnati, on the Ohio, 550 miles from Mississippi; Portsmouth, on the Ohio, 589 miles from Mississippi; mouth of the Hocking, on the Ohio, 756 miles from Mississippi; Marietta, on the Ohio, 783 miles from Mississippi; at mouth Little Beaver, on Ohio, 924 miles from Mississippi.

In addition to these numerous canals, there is a railroad in partial completion from St. Josephs, on Lake Michigan, to Detroit, 200 miles long. The Mad River and Erie road extends from Sandusky on the Lake to Dayton, Ohio. The connection of this road with the Little Miami at Springfield, completes the line from Cincinnati to Sandusky.

The great *Erie Canal* connects Buffalo on Lake Erie with Albany on the Hudson, and is 363 miles long, etc., etc. There are several branches. The branch from Syracuse to Oswego on Lake Ontario; the Black River Canal; the Champlain Canal, to Whitehall at the head of Lake Champlain, 65 miles long. Thus is the Hudson River at Albany connected by this canal and its tributaries, with Lakes Erie, Ontario, and Champlain. The canal also connects with the Atlantic by the Chenango Canal from Utica to the Susquehanna, and thence by Pennsylvania canals, or from Rochester, by the Genessee Valley Canal, to the head of boat navigation on the Alleghany River, and thence to the Mississippi.

From Montezuma, on the Erie Canal, 205 miles west of Albany, there is a connection with Philadelphia by the Seneca Lake and Canal, Chemung Canal, Williamsport Railroad 73 miles, Susquehanna Canal, Harrisburg, etc., Railroads, 107 miles. Total distance, 360 miles.

From the Erie Canal at Montezuma, there is a connection with Baltimore by the Cayuga Lake, by the Ithica and Oswego Railroad, by the river Susquehanna, thence by railroad or water, etc., to Baltimore.

A railroad is now in operation from Buffalo to Albany, from Albany to Boston, and also to New York.

The Philadelphia and Pittsburgh Railroad connects the Atlantic with the Ohio, and of course with the Lakes. It consists of

The Columbia Railroad to Harrisburg on Susquehanna,....	82 miles.
Center Division Pennsylvania Canal,.....	172 "
Railroad from Hollidaysburg to Johnstown,.....	36 "
Western Division Pennsylvania Canal,.....	104 "
Total,.....	394 "

In reference to the application of the commercial means of the Lakes to the purposes of defense, Col. Albert calculates the present commercial marine of the upper Lakes, is adequate to supply, without injury to the commerce of a state of war, as an auxiliary to a national fleet, means of transporting ten thousand men and all their supplies—means of creating, at short notice, ten heavily armed steamers, and of furnishing 1500 mariners. Though in cases of emergency, the whole commercial marine of the upper Lakes could be made tributary to their defense.

In regard to the lower Lakes, or those below the Falls of Niagara, it may be remarked that the British have greatly the preponderance on Lake Ontario, our mariners there being 1,300 available for war, four heavily armed steamers, and 15,000 tons shipping. On Champlain, however, the American power is supreme. The dimensions of the Welland Canal are not such as will admit the naval supremacy of the British on Ontario to be felt on the upper Lakes. Their force is as follows, compared with ours:

BRITISH MARINE ON LAKE ONTARIO.

57	steamers, averaging	200 tons.
6	lake propellers	300 "
7	river "	75 "
2	ships averaging	500 "
6	brigantines, "	150 "
94	schooners, "	150 "
300	barges, "	40 "
30	small craft, "	20 "

AMERICAN MARINE, LAKE ONTARIO.

8	steamers, averaging	277 tons.
10	propellers, "	275 "
204	sailing vessels, averaging	114 "

By means of locking the St. Lawrence, heavy armed steamers can be passed into the Lake from Montreal; and although the Welland Canal will not admit large armed vessels, every supply from the St. Lawrence may be dispatched to the upper Lakes through it.

The entire line of Lake coast is about 5,000 miles, 2,000 miles of which are the coast of a foreign power.

CAPACITY OF LAKES.

	Length.	Greatest Width.	Average Width.
Lake Champlain,	105	12	8
Lake Ontario,	180	52	40
Lake Erie,	240	57	38
Lake St. Clair,	18	25	12
Lake Huron,	270	105	70
Lake Michigan,	340	83	58
Lake Superior,	420	135	100

In the greatest width of Lake Huron, is not included the extensive Bay of Georgian, 120 miles long, and 45 miles wide on the average.

These lakes are connected throughout. *Champlain* with *Ontario* by

the river Richelieu, the lock and dam navigation of St. Lawrence, the river Ottowa, the Rideau Canal through Canada, and the Champlain and Erie Canals of New York. *Ontario* is connected with *Erie* by Welland Canal and Oswego and Erie Canals, through New York; *Erie* with *St. Clair* by navigable and deep Strait of Detroit; *St. Clair* with *Huron* by navigable Strait of St. Clair; *Huron* with *Michigan* by Strait of Mankinaw, and with *Superior* by Strait of St. Mary. Some slight obstructions remain to be removed.

LAKE CHAMPLAIN lies almost exclusively in New York and Vermont, and Government has been at most expense upon the harbors of Burlington and Plattsburg.

LAKE ONTARIO. Its ports are Sackett's Harbor, used in the last war as a naval depot; Port Ontario, Oswego, Little Sodus Bay, Big Sodus, Harbor of Genessee, Oak Orchard, etc., being nine good harbors, all requiring, however, work of improvement. "The whole of this coast being a southern coast, is exposed to the violence of the prevailing northern winds, and in consequence requires whatever protection it can obtain."

LAKE ERIE. On the New York coast of this Lake are Black Rock, Buffalo, Cattaraugus, Dunkirk and Portland Harbors. Buffalo is the greatest of all, and has a commerce of $60,000,000 or $70,000,000. On the Pennsylvania coast is Erie Harbor, of great capacity, which caused it to be adopted in 1812, as a principal naval station. It is now the principal place of outfit for naval vessels, and winter quarters. The Ohio coast of Erie includes Conneaut, Ashtabula, Grand River, Cleveland, Black River, Vermillion, Huron, Cunningham Creek, Sandusky Bay, of which Cleveland and Sandusky are the most important in point of trade, and are rapidly advancing. The Michigan coast includes Monroe and Toledo, which last, though used by Michigan, is in the State of Ohio. Upon all of these harbors, works have been in progress by the Government.

LAKE MICHIGAN has 320 miles of coast in Wisconsin, 560 miles in Michigan, 40 miles in Indiana, and 60 miles in Illinois. There are three good harbors in Michigan; one in Indiana, Michigan City; three in Illinois, of which Chicago is chief; several in Wisconsin, of which Milwaukie is most important. Besides all this coast, there are several hundred miles of coast, of which but little is known, and which is known as the upper peninsula of the State of Michigan.

With these remarks we dismiss the subject, regretting that the most clear and explicit information has in so few instances been obtained; and with a confiding hope, that the labors begun by Mr. Burke, the late Commissioner of Patents, in collecting the statistics of our internal trade, will be continued by the *Home* Department, and that the States themselves will soon establish *Bureaus of Statistics* in connection with their several governments. As we obtain information from time to time upon these subjects, it shall be furnished to our readers.

ART. II.—SLAVERY AT THE SOUTH.

INTRODUCTION; THE SLAVE TRADE, AND FUTILE ATTEMPTS TO ABOLISH IT; PRESCRIPTIVE RIGHT; SLAVERY IN THE ABSTRACT; IN ITS MORAL AND RELIGIOUS ASPECT; IN ITS POLITICAL INFLUENCES, AS AFFECTING PUBLIC ORDER, AND THE SAFETY AND POWER OF THE STATE.

[LETTERS OF GOVERNOR HAMMOND TO THOMAS CLARKSON.—We have often been persuaded to republish in our Review, the admirable and unanswerable letters of Gov. Hammond upon the slavery question. These letters have been inquired after very much of late in the South-west, where with difficulty a copy could be obtained. Regarding them as one of the most forcible exhibitions of the question in every possible point of view, we think it desirable that they be preserved in a permanent form, and be bound in with the volumes of our Review, in which, as far as possible, we desire to combine everything shedding light upon our institutions. Besides, as our circulation is now extending to the North and North-west, an opportunity will be afforded for our friends there to read and reflect upon the other side of the question, In either case, good must be effected, and we most earnestly press upon all southerners a reperusal of the letters.

Before long we shall present some new and striking information upon the negro and his relations to the white man, etc., from the pen of a learned friend, who has given years to the investigation of the subject. We have also prepared some interesting statistics of slavery, slave products, slave territories, etc., sufficient for one or two articles, which will appear shortly, and we think contribute much to the proper understanding of the whole matter. The South should be prepared upon all these points.

To those desirous of investigation we commend the following among other authorities: British Cyclopædia—slavery; Encyclopædia Americana, slavery, with the authorities there cited; Dr. Cartwright and Dr. Nott, in Southern Quarterly and Commercial Reviews; Chancellor Harper's Address; Rev. T. Thornton's Inquiry, 1 vol.; Paulding & Carey on Slavery; Argument R. J. Walker in Slaughter *vs.* Groves; Esle's Defense of Negro Slavery; Blair's Roman Slavery; Fuller and Wayland's Discussion on Slavery, etc.—ED.]

SIR—I received, a short time ago, a letter from the Rev. Willoughby M. Dickinson, dated at your residence, "Playford Hall, near Ipswich, 26th Nov., 1844," in which was inclosed a copy of your circular letter addressed to professing Christians in our northern States, having no concern with slavery, and to others there. I presume that Mr. Dickinson's letter was written with your knowledge, and the document inclosed with your consent and approbation. I therefore feel that there is no impropriety in my addressing my reply directly to yourself, especially as there is nothing in Mr. Dickinson's communication, requiring serious notice. Having abundant leisure, it will be a recreation to devote a portion of it to an examination and free discussion of the question of slavery as it exists in our southern States; and since you have thrown down the gauntlet to me, I do not hesitate to take it up.

Familiar as you have been with the discussions of this subject in all its aspects, and under all the excitements it has occasioned for sixty years past, I may not be able to present much that will be new to you. Nor ought I to indulge the hope of materially affecting the opinions you have so long cherished, and so zealously promulgated. Still, time and experience have developed facts, constantly furnishing fresh tests to opinions formed sixty years since, and continually placing this great question in points of view, which could scarcely occur to the most consummate intellect even a quarter of a century ago; and which may not have occurred yet to those whose previous convictions, prejudices and

habits of thought, have thoroughly and permanently biassed them to one fixed way of looking at the matter; while there are peculiarities in the operation of every social system, and special local as well as moral causes materially affecting it, which no one, placed at the distance you are from us, can fully comprehend or properly appreciate. Besides, it may be, possibly, a novelty to you to encounter one who conscientiously believes the domestic slavery of these States to be not only an inexorable necessity for the present, but a moral and humane institution, productive of the greatest political and social advantages, and who is disposed, as I am, to defend it on these grounds.

I do not propose, however, to defend the African Slave Trade. That is no longer a question. Doubtless great evils arise from it as it has been, and is now conducted: unnecessary wars and cruel kidnapping in Africa; the most shocking barbarities in the Middle Passage; and perhaps a less humane system of slavery in countries continually supplied with fresh laborers at a cheap rate. The evils of it, however, it may be fairly presumed, are greatly exaggerated. And if I might judge of the truth of transactions stated as occurring in this trade, by that of those reported as transpiring among us, I should not hesitate to say, that a large proportion of the stories in circulation are unfounded, and most of the remainder highly colored.

On the passage of the act of Parliament prohibiting this trade to British subjects, rests what you esteem the glory of your life. It required twenty years of arduous agitation, and the intervening extraordinary political events, to convince your countrymen, and among the rest your pious king, of the expediency of the measure: and it is but just to say, that no one individual rendered more essential service to the cause than you did. In reflecting on the subject, you cannot but often ask yourself, what after all has been accomplished; how much human suffering has been averted; how many human beings have been rescued from transatlantic slavery? And on the answers you can give these questions, must in a great measure, I presume, depend the happiness of your life. In framing them, how frequently must you be reminded of the remark of Mr. Grosvenor, in one of the early debates upon the subject, which I believe you have yourself recorded, "that he had twenty objections to the abolition of the slave trade: the first was, *that it was impossible*—the rest he need not give." Can you say to yourself, or to the world, that this *first* objection of Mr. Grosvenor has been yet confuted? It was estimated at the commencement of your agitation in 1787, that forty-five thousand Africans were annually transported to America and the West Indies. And the mortality of the Middle Passage, computed by some at five, is now admitted not to have exceeded nine per cent. Notwithstanding your act of Parliament—the previous abolition by the United States, and that all the powers in the world have subsequently prohibited this trade (some of the greatest of them declaring it piracy, and covering the African seas with armed vessels to prevent it)—Sir Thomas Fowel Buxton, a coadjutor of yours, declared in 1840, that the number of Africans now annually sold into slavery beyond the sea, amounts, at the very least, to one hundred and fifty thousand souls; while the mortality of the Middle Passage has increased, in consequence of the measures taken to suppress the trade,

to twenty-five or thirty per cent. And of the one hundred and fifty thousand slaves who have been captured and liberated by British men-of-war since the passage of your act, Judge Jay, an American abolitionist, asserts that one hundred thousand, or two-thirds, have perished between their capture and liberation. Does it not really seem that Mr. Grosvenor was a prophet? That though nearly all the "impossibilities" of 1787 have vanished, and become as familiar *facts* as our household customs, under the magic influence of steam, cotton and universal peace, yet this wonderful prophecy still stands, defying time and the energy and genius of mankind. Thousands of valuable lives and fifty millions of pounds sterling have been thrown away by your government in fruitless attempts to overturn it. I hope you have not lived too long for your own happiness, though you have been thus spared to see that in spite of all your toils and those of your fellow-laborers, and the accomplishment of all that human agency could do, the African slave trade has increased three-fold under your own eyes—more rapidly, perhaps, than any other ancient branch of commerce—and that your efforts to suppress it have effected *nothing more* than a three-fold increase of its horrors. There is a God who rules this world—all powerful—far-seeing: He does not permit His creatures to foil His designs. It is He who, for his allwise, though to us often inscrutable purposes, throws "impossibilities" in the way of our fondest hopes and most strenuous exertions. Can you doubt this?

Experience having settled the point, that this trade *cannot be abolished by the use of force*, and that blockading squadrons serve only to make it more profitable and more cruel; I am surprised that the attempt is persisted in, unless it serves as a cloak to other purposes. It would be far better than it now is, for the African, if the trade was free from all restrictions, and left to the mitigation and decay which time and competition would surely bring about. If kidnapping, both secretly and by war made for the purpose, could be by any means prevented in Africa, the next greatest blessing you could bestow upon that country would be to transport its actual slaves in comfortable vessels across the Atlantic. Though they might be perpetual bondsmen, still, they would emerge from darkness into light—from barbarism to civilization—from idolatry to Christianity—in short, from death to life.

But let us leave the African slave trade, which has so signally defeated the *philanthropy* of the world, and turn to American slavery to which you have now directed our attention, and against which a crusade has been preached as enthusiastic and ferocious as that of Peter the Hermit—destined, I believe, to be about as successful. And here let me say, there is a vast difference between the two, though you may not acknowledge it. The wisdom of ages has concurred in the justice and expediency of establishing rights by prescriptive use, however tortuous in their origin they may have been. You would deem a man insane, whose keen sense of equity would lead him to denounce your right to the lands you hold, and which perhaps you inherited from a long line of ancestry, because your title was derived from a Saxon or Norman conqueror, and your lands were originally wrested by violence from the vanquished Britons. And so would the New England abolitionist regard any one who would insist that he should restore his farm

to the descendants of the slaughtered red men to whom God had as clearly given it as he gave life and freedom to the kidnapped African. That time does not consecrate wrong, is a fallacy which all history exposes; and which the best and wisest men of all ages and professions of religious faith have practically denied. The means, therefore, whatever they may have been, by which the African race now in this county have been reduced to slavery, cannot affect us, since they are our property, as your land is yours, by inheritance or purchase and prescriptive right. You will say that man cannot hold *property in man*. The answer is, that he can and *actually does* hold property in his fellow all the world over, in a variety of forms, and *has always done so*. I will show presently his authority for doing it.

If you were to ask me whether I am an advocate of slavery in the abstract, I should probably answer, that I am not, according to my understanding of the question. I do not like to deal in abstractions. It seldom leads to any useful ends. There are few universal truths. I do not now remember any single moral truth universally acknowledged. We have no assurance that it is given to our finite understanding to comprehend abstract moral truth. Apart from the Revelation and the Inspired Writings, what ideas should we have even of God, salvation and immortality? Let the heathen answer. Justice itself is impalpable as an abstraction, and abstract liberty the merest phantasy that ever amused the imagination. This world was made for man, and man for the world as it is. Ourselves, our relations with one another and with all matter, are real, not ideal. I might say that I am no more in favor of slavery in the abstract, than I am of poverty, disease, deformity, idiocy, or any other inequality in the condition of the human family; that I love perfection, and I think I should enjoy a millenium such as God has promised. But what would it amount to? A pledge that I would join you to set about eradicating those apparently inevitable evils of our nature, in equalizing the condition of all mankind, consummating the perfection of our race, and introducing the Millenium? By no means. To effect these things belongs exclusively to a higher power. And it would be well for us to leave the Almighty to perfect His own works, and fulfill His own covenants. Especially, as the history of the past shows how entirely futile all human efforts have proved, when made for the purpose of aiding Him in carrying out even his revealed designs, and how invariably he has accomplished them by unconscious instruments, and in the face of human expectation. Nay, more, that every attempt which has been made by fallible man to extort from the world obedience to his "abstract" notions of right and wrong, has been invariably attended with calamities, dire and extended, just in proportion to the breadth and vigor of the movement. On slavery in the abstract, then, it would not be amiss to have as little as possible to say. Let us contemplate it as it is. And thus contemplating it, the first question we have to ask ourselves is, whether it is contrary to the will of God, as revealed to us in His Holy Scriptures—the only certain means given us to ascertain His will. If it is, then slavery is a sin. And I admit at once, that every man is bound to set his face against it, and to emancipate his slaves should he hold any.

Let us open these Holy Scriptures. In the twentieth chapter of Ex-

odus, seventeenth verse, I find the following words: "Thou shalt not covet thy neighbor's house, thou shalt not covet thy neighbor's wife, nor his man-servant, nor his maid-servant, nor his ox, nor his ass, nor anything that is thy neighbor's"—which is the tenth of those commandments that declare the essential principles of the Great Moral Law delivered to Moses by God himself. Now, discarding all technical and verbal quibbling as wholly unworthy to be used in interpreting the Word of God, what is the plain meaning, undoubted intent, and true spirit of this commandment? Does it not emphatically and explicitly forbid you to disturb your neighbor in the enjoyment of his property; and more especially of that which is here specifically mentioned as being lawfully and by this commandment made sacredly his? Prominent in the catalogue, stands "his man-servant and his maid-servant," who are thus distinctly *consecrated as his property* and guaranteed to him for his exclusive benefit in the most solemn manner. You attempt to avert the otherwise irresistible conclusion, that slavery was thus ordained by God, by declaring that the word "slave" is not used here, and is not to be found in the Bible. And I have seen many learned dissertations on this point from Abolition pens. It is well known that both the Hebrew and Greek words translated "servant" in the Scriptures, mean also and most usually "slave." The use of the one word instead of the other, was a mere matter of taste with the translators of the Bible, as it has been with all the commentators and religious writers, the latter of whom have, I believe, for the most part, adopted the term "slave," or used both terms indiscriminately. If, then, these Hebrew and Greek words include the idea of both systems of servitude, the conditional and unconditional, they should, as the major includes the minor proposition, be always translated "slaves," unless the sense of the whole text forbids it. The real question, then, is, what idea is intended to be conveyed by the words used in the commandment quoted? And it is clear to my mind, that as no limitation is affixed to them, and the express intention was to secure to mankind the peaceful enjoyment of every species of property, that the terms "men-servants and maid-servants" include all classes of servants, and establish a lawful, exclusive and indefeasible interest equally in the "Hebrew brother who shall go out in the seventh year," and "yearly hired servant," and "those purchased from the Heathen round about," who were to be "bondmen forever," *as the property of their fellow man.*

You cannot deny that there were among the Hebrews "bondmen forever." You cannot deny that God especially authorized his chosen people to purchase "bondmen forever" from the Heathen, as recorded in the *twenty fifth chapter of Leviticus*, and that they are there designated by the very Hebrew word used in the tenth commandment. Nor can you deny that a "BONDMAN FOREVER" is a "SLAVE": yet you endeavor to hang an argument of immortal consequence upon the wretched subterfuge, that the precise word "slave" is not to be found in the *translation* of the Bible. As if the translators were canonical expounders of the Holy Scriptures, and *their words*, not *God's meaning*, must be regarded as His revelation.

It is vain to look to Christ or any of his Apostles, to justify such blasphemous perversions of the word of God. Although slavery in its most revolting form was everywhere visible around them, no visionary

notions of piety or philanthropy ever tempted them to gainsay the LAW, even to mitigate the cruel severity of the existing system. On the contrary, regarding slavery as an *established*, as well as *inevitable condition of human society*, they never hinted at such a thing as its termination on earth, any more than that "the poor may cease out of the land," which God affirms to Moses shall never be: and they exhort "all servants under the yoke" to "count their masters as worthy of all honor": "to obey them in all things according to the flesh; not with eye-service as men-pleasers, but in singleness of heart fearing God;" "not only the good and gentle, but also the froward"; for what glory is it, if, when ye are buffeted for your faults, ye shall take it patiently: but if, when ye do well and suffer for it, ye take it patiently, this is acceptable to God." St. Paul actually apprehended a runaway slave and sent him to his master! Instead of deriving from the Gospel any sanction for the work you have undertaken, it would be difficult to imagine sentiments and conduct more strikingly in contrast, than those of the Apostles and Abolitionists.

It is imposible, therefore, to suppose that slavery is contrary to the will of God. It is equally absurd to say that American slavery differs in form or principle from that of the chosen People. *We accept the Bible terms as the definition of our slavery, and its precepts as the guide of our conduct.* We desire nothing more. Even the right to "buffet," which is esteemed so shocking, finds its express license in the Gospel. 1 *Peter ii*, 20. Nay, what is more, God directs the Hebrews to "bore holes in the ears of their brothers" to *mark* them, when under certain circumstances they become *perpetual slaves*. *Exodus xxi*, 6.

I think, then, I may safely conclude, and I firmly believe, that American slavery is not only not a sin, but especially commanded by God through Moses, and approved by Christ through his Apostles. And here I might close its defense; for what God ordains and Christ sanctifies, should surely command the respect and toleration of man. But I fear there has grown up, in our time, a transcendental religion, which is throwing even transcendental philosophy into the shade—a religion too pure and elevated for the Bible—which seeks to erect among men a higher standard of morals than the Almighty hasrevealed or our Savior preached; and which is probably destined to do more to impede the extension of God's kingdom on earth than all the infidels who have ever lived. Error is error. It is as dangerous to deviate to the right hand as to the left. And when men, professing to be holy men, and who are, by numbers so regarded, declare those things to be sinful which our Creator has expressly authorized and instituted, they do more to destroy His authority among mankind, than the most wicked can effect by proclaiming that to be innocent which He has forbidden. To this self-righteous and self-exalted class belong all the abolitionists whose writings I have read. With them, it is no end of the argument to prove your propositions by the texts of the Bible, interpreted according to its plain and palpable meaning, and as understood by all mankind for three thousand years before their time. They are more ingenious at construing and interpolating to accommodate it to their new-fangled and etherial code of morals, than ever were Voltaire or Hume in picking it to pieces to free the world from what they considered a delusion. When

the Abolitionists proclaim "man-stealing" to be a sin, and show me that it is so written down by God, I admit them to be right, and shudder at the idea of such a crime. But when I show them that to hold "bondmen forever" is ordained by God, *they deny the Bible, and set up in its place a law of their own making.* I must then cease to reason with them on this branch of the question. Our religion differs as widely as our manners. The great Judge, in our day of final account, must decide between us.

Turning from our considerations of slave-holding in its relations to man as an accountable being, let us examine it in its influence on his political and social state. Though, being foreigners to us, you are in no wise entitled to interfere with the civil institutions of this country, it has become quite common for your countrymen to decry slavery as an enormous political evil to us, and even to declare that our Northern States ought to withdraw from the Confederacy rather than continue to be contaminated by it. The American Abolitionists appear to concur fully in these sentiments, and a portion at least of them are incessantly threatening to dissolve the Union. Nor should I be at all surprised if they succeed. It would not be difficult, in my opinion, to conjecture which region, the North or South, would suffer most by such an event. For one, I should not object, by any means, to cast my lot in a confederacy of States, whose citizens might all be slaveholders.

I indorse, without reserve, the much-abused sentiment of Governor McDuffie, that "slavery is the corner-stone of our Republican edifice"; while I repudiate as ridiculously absurd, that much lauded but nowhere accredited dogma of Mr. Jefferson, "that all men are born equal." No society has ever yet existed, and I have already incidentally quoted the highest authority to show that none ever will exist, without a natural variety of classes. The most marked of these must, in a country like ours, be the rich and the poor, the educated and the ignorant. It will scarcely be disputed that the very poor have less leisure to prepare themselves for a proper discharge of public duties than the rich; and that the ignorant are wholly unfit for them at all. In all countries save ours, these two classes, or the poor rather, who are presumed to be necessarily ignorant, are by law expressly excluded from all participation in the management of public affairs. In a republican Government this cannot be done. Universal suffrage, though not essential in theory, seems to be in fact a necessary appendage to a republican system. Where universal suffrage obtains, it is obvious that the government is in the hands of a numerical majority; and it is hardly necessary to say, that in every part of the world more than half the people are ignorant and poor. Though no one can look upon poverty as a crime, and we do not generally here regard it as any objection to a man in his individual capacity; still, it must be admitted that it is a wretched and insecure government which is administered by its most ignorant citizens, and those who have the least at stake under it. Though intelligence and wealth have great influence here as everywhere, in keeping in check reckless and unenlightened numbers, yet it is evident to close observers, if not to all, that these are rapidly usurping all power in the non-slaveholding States, and threaten a fearful crisis in republican institutions there at no remote period. In the slaveholding States, however, nearly one-

half of the whole population, and those the poorest and the most ignorant, have no political influence whatever, because they are slaves Of the other half a large proportion are both educated and independent in their circumstances, while those who unfortunately are not so, being still elevated far above the mass, are higher toned and more deeply interested in preserving a stable and well ordered government, than the same class in any other country. Hence, slavery is truly the "corner-stone" and foundation of every well-designed and durable "republican edifice."

With us, every citizen is concerned in the maintenance of order, and in promoting honesty and industry among those of the lowest class who are our slaves; and our habitual vigilance renders standing armies, whether of soldiers or policemen, entirely unnecessary. Small guards in our cities, and occasional patrols in the country, insure us a repose and security known nowhere else. You cannot be ignorant that, excepting the United States, there is no country in the world whose existing government would be overturned in a month, but for its standing armies, maintained at an enormous and destructive cost to those whom they are destined to overawe—so rampant and combative is the spirit of discontent wherever nominal free labor prevails, with its ostensive privileges and its dismal servitude. Nor will it be long before the "*Free States*" of this Union will be compelled to introduce the same expensive machinery, to preserve order among their "free and equal" citizens. Already has Philadelphia organized a permanent battalion for this purpose; New York, Boston and Cincinnati, will soon follow her example; and then the smaller towns and densely populated counties. The intervention of their militia to repress violations of the peace is becoming a daily affair. A strong government, after some of the old fashions—though probably with a new name—sustained by the force of armed mercenaries, is the ultimate destiny of the non-slaveholding section of this Confederacy, and one which may not be very distant.

It is a great mistake to suppose, as is genereraly done abroad, that, in case of war, slavery would be a source of weakness. It did not weaken Rome, nor Athens nor Sparta, though their slaves were comparatively far more numerous than ours, of the same color, for the most part, with themselves, and large numbers of them familiar with the use of arms. I have no apprehension that our slaves would seize such an opportunity to revolt. The present generation of them, born among us, would never think of such a thing at any time, unless instigated to it by others. Against such instigations we are always on our guard. In time of war we should be more watchful and better prepared to put down insurrections than at any other periods. Should any foreign nation be so lost to every sentiment of civilized humanity as to attempt to erect among us the standard of revolt, or to invade us with Black Troops for the base and barbarous purpose of stirring up servile war, their efforts would be signally rebuked Our slaves could not be easily seduced, nor would anything delight them more than to assist in stripping Cuffee of his regimentals to put him in the cotton-field, which would be the fate of most black invaders, without any very prolix form of "apprenticeship." If, as I am satisfied would be the case, our slaves remained peacefully on our plantations, and cultivated them in time of war, under

the superintendence of a limited number of our citizens, it is obvious that we could put forth more strength in such an emergency, at less sacrifice, than any other people of the same numbers. And thus we should in every point of view, "out of this nettle danger, pluck the flower safety."

How far slavery may be an advantage or disadvantage to those not owning slaves, yet united with us in political association, is a question for their sole consideration. It is true that our representation in Congress is increased by it. But so are our taxes; and the non slaveholding States, being the majority, divide among themselves far the greater portion of the amount levied by the Federal Government. And I doubt not that when it comes to a close calculation, they will not be slow in finding out that the balance of profit arising from the connection is vastly in their favor.

[*To be continued.*]

ART. III.—FLORIDA.

THE EVERGLADES OF FLORIDA, AND THE PROSPECT OF RECLAIMING THEM INTO GARDENS FOR EVERY VARIETY OF THE FRUITS OF THE TROPICS, &C.

We have, upon three occasions, presented to the readers of the Review elaborate sketches of Florida, historically and productively, in almost every interesting particular. Our first paper (vol. iv, 38 p.) was based upon the History by Dr. Monette, and the United States Census of 1840; the second (in the same volume, p. 245), upon the Report to Congress by Dr. Henry Perrine, and private information; the third was the able production of E. R. Fairbanks, Esq., one of the citizens of that State, and is the leading article of our fifth volume. These sketches have left little yet to be presented in regard to Florida that is truly instructive and valuable, except what we have been fortunate enough to find in a volume entitled "Everglades of the Peninsula of Florida," and for which the country is indebted mainly to the efforts of the Hon. J. D Westcott, jr., who has kindly furnished us a copy.

The volume contains first, a Report from the Committee on Public Lands, urging a donation, by government to the State of Florida, of the Everglades existing in the southern part of the peninsula, of immense extent, filled with islands and covered with a large sheet of water, on condition that they be drained and reclaimed The committee present a letter from Mr. Walker, Secretary of the Treasury, approving the suggestion, and from the Commissioner of the Land Office, to the same effect From this last, it appears that the whole area of the Everglades is about 7,800,000 acres of land and water, of which 4,300,000 are always inundated and incapable of reclamation, 1,000,000 acres only occasionally covered and of doubtful recovery—and the remaining 2,500,000 acres are considered inferior and for a great part valueless, although not inundated.

In the tract proposed to be ceded, lies the grant already made to Dr. Perrine of 23,000 acres, and the Alagon claim, under Spanish grant, covering two-thirds of the territory but not considered at all valid.

"The project of draining the Everglades," says the Commissioner, "*if successful*, may reclaim *for cultivation* within the limits of the proposed grant, about *one million of acres* of these lands now covered with water, some *continually*, and the residue occasionally only. It cannot be expected to *reclaim* but a part of the Everglades: a part of the Atscenahoofa, or big cypress swamp, a part of the Halpatiokee swamp, and the skirt of poor lands on the margin of the glades, covered with water some months in every year, and which is very barren. Much of the *subaqueous* lands will still remain inundated, and no one can expect that the parts that are so drained can all be made susceptible of cultivation."

The Bill before Congress makes the grant depend upon these conditions: 1. That the State shall, in two years, commence a series of drains and canals for draining purposes; for decreasing the waters of Lake Okeechobee, &c.; for draining the Everglades between that lake and the Atlantic and Gulf coast, so that, if practicable, a communication may be made by such canals for vessels between the Atlantic and Gulf waters, and the whole be completed in ten years. 2. That one thirty-sixth part of said lands be reserved for public school purposes for the inhabitants thereof. 3. That Government shall have alternate sections of such lands south of the line as have been completely surveyed, &c.

The most important point, however, in the conditions of transfer, is that the surplus of the lands embraced, after defraying all expenses, etc., of reclaiming, shall constitute a perpetual fund for educational purposes, etc. Of this feature we express our warm approval.

The proposed donation to Florida resembles, very much, that which was made to Louisiana, at the last Congress, of a vast body of swamp lands, several millions of acres, supposed to be within the power of recovery without great expense, and to be very valuable for agricultural purposes when so reclaimed. Doubtless, immediate steps will be taken by the Legislature of the State in the premises; and we desire an opportunity of expressing here our ardent hope that the educational feature of the Florida act will be imitated, and that a large tract of the reclaimed lands—one half-million acres, at least—will be reserved forever. The proceeds of this *land fund* will suffice for SCHOOL and UNIVERSITY purposes. The Legislature of Louisiana will then have an opportunity of endowing, in a manner becoming of the noble institution that was in contemplation of the Convention which framed our present Constitution, and which was to be located in the city of New Orleans. It can make this UNIVERSITY one of the proudest and most distinguished seats of learning in America, and thronged with students from half the Confederacy—from the neighboring Islands and Mexico, if this scheme be but carried out, and that, too, *without one cent of expense to the State.* The grant from Government is a pure gratuity, and it becomes a liberal people like ours to use it for such elevated purposes. Without such endowment, the University must degenerate into a mere grammar school, which its literary and scientific departments are now in great danger of doing, despite of the handsome structures that have been erected, and are in progress. An endowment of one-half or one-quarter million, perhaps, acres of the reclaimed lands would produce an annual revenue of $40,000, the least cost at which a splendid institution can be sustain-

ed, including halls, observatories, libraries, cabinets, apparatus, and needy scholars, of whom any number may be instructed *free*. *Louisiana* would have just reason to be proud of such an institution in her *great city*.*

But to return to Florida, Mr. *Buckingham Smith*, who was employed by Government, in 1847, to "make a *reconnoissance* of the Everglades, &c.," makes a report, from which we digest many important particulars. It appears that there is a faint tradition the Spaniards contemplated more than a century ago the draining of the Everglades, and actually undertook it, and some of the works, it is supposed, were discovered in the late Indian war. During the British possession of Florida, De Brahm, an experienced engineer, made surveys of the eastern coast, and some of his maps, notes, &c., are in the collections of Peter Force, Esq., at Washington, and many others among the papers lately brought over from England by Massachusetts.

The Everglades extend from the southern margin of Lake Okeechobee some ninety miles to Cape Sable, the southern extremity of the peninsula of Florida, and are in width from thirty to fifty miles. Their waters are fresh, and are in depth from one to six feet. Lake Okeechobee is a large body of water, thirty miles in diameter, and subject to continual overflow. The geology of the southern portion of the peninsula comprises oolitic lime rock, filled with shells and corals, porous, easy of excavation, and on exposure to the air hardens and becomes useful for building purposes. It contributes to the fertility of the soil. Along the eastern verge of the glades are spots of wet and black prairie land, and also between them and the sea. Other spots are covered with pine trees, imbedded in a dark soil of vegetable mold. Dry hammocks exist, too, with various descriptions of trees. These lands would all be valuable.

To reclaim the Everglades and the neighboring swamps, it is proposed to tap the Lake Okeechobee by canals, etc., as its waters are supposed to be elevated at least twelve feet above the waters which shall furnish an outlet and a reservoir, and the whole expense at the highest figure is put down about $500,000.

"Whatever may be," says Mr. Smith, "the latent and dormant resources of this region; however great the capability of its being advantageously improved, and however valuable it may be made by the enterprize, energy and industry of the American agriculturist, if encouraged, or even given a fair chance, by the Government; yet, hitherto, no proper opportunity has been offered for the development of those resources and capabilities. Whilst in the possession of the savages; even when under the dominion of the Spaniards, who possessed little agricultural enterprise, and whose attention was directed elsewhere; during the short period it was in the hands of the English, suffering not merely from neglect, but pressed down by the most iniquitous policy; from its discovery by Ponce de Leon to the present day, with but brief exceptions, the theater of savage war, and bloodshed and desolation; in the eighty years preceding its acquisition by the United States, twice

* The reader will refer to the last or preceding number of our Review, where we originally proposed this educational movement.

changing masters, owners, inhabitants and policy; for some time, the resort of the rovers of the sea, or the little less scrupulous cruisers of the many different flags which the revolutions of the present century occasioned; and, when acquired by the United States, assigned as a kind of prison bounds for the Seminoles they failed to remove or subdue, it would have been wondrous, indeed, had it become more important, in any respect, than it is now generally regarded."

The action of Government has not been favorably felt in the settlement of South Florida, and the whole number of whites on the peninsula now, below the northern part of the Everglades, does not exceed fifty. At Key West there are about 2000, and occasional settlements on other Keys.

During the Florida War, the butcheries of the Indians, the murder of Government officers and of Dr. Perrine, drove nearly all the settlers to Key West; and the location since, of some of the Indians in the peninsula, is calculated to deter settlement for a long time.

The Government has commenced at Key West and the Tortugas extensive fortifications for the protection of the vast commerce of the country passing in that quarter, and to give us the command of the Gulf, the straits of Florida, and perhaps, eventually, by our navy, of the Caribbean sea. A numerous population in the vicinity of these fortifications, is much to be desired; and they would, from the character of the country, resort to the seas and the fisheries, and become in the event, a nursery of southern seamen. Such a population, it is said, would diminish the dangers of vessels passing along the straits and navigating the Gulf, and prevent losses in property, which are now more than one million of dollars per annum: since more extensive and accurate knowledge would thereby be generally acquired of the reefs and coasts and of their continued changes; and the superior facility of obtaining pilots and other aid, that would be afforded by such settlements, would be valuable safe-guards.

The fisheries of Florida, too, would be promoted, which within the last fifteen years have become of some consequence, and are valued at about $5,000 annually. The British have ever eagerly sought a participation in these fisheries for the Bahamians. The salt resources of the Islands and Keys are equal to the demands of the whole Union.

The Everglades are thus described by Mr Smith:

"Imagine a vast lake of fresh water extending in every direction, from shore to shore, beyond the reach of human vision—ordinarily unruffled by a ripple on its surface—studded with thousands of islands, of various sizes, from one-fourth of an acre to hundreds of acres in area, and which are generally covered with dense thickets of shrubberry and vines. Occasionally an island is found with lofty pines and palmettos upon it, but oftener they are without any; and not unusually a solitary, majestic palmetto is seen, the only tree upon an island, as if to guide in approaching it, or as a place of signal or look-out for its former denizens. The surrounding waters, except in places that at first seem like channel ways (but which are not), are covered with tall saw-grass, shooting up its straight and slender stems from the shallow bottom of the lake, to the height, often, of ten feet above the surface, and covering all, but a few rods around, from your view. The water is pure and limpid, and almost imperceptibly moves, not in partial currents, but, as it seems, in a mass, silently and slowly to the southward. The bottom of the lake, at the distance of from three to six feet, is covered with a deposit of decayed vegetable substance, the accumulated product of ages, generally two or three feet in depth, on the white sand and

rock that underlies it, over the entire surface of the basin. The flexible grass, bending gently to the breeze, protects the water from its influence. Lilies and other aquatic flowers of every variety and hue, are to be seen on every side, in pleasant contrast with the pale green of the saw-grass; and, as you draw near an island, the beauty of the scene is increased by the rich foliage and blooming flowers of the wild myrtle and the honey-suckle, and other shrubs and vines that generally adorn its shores. The profound and wild solitudes of the place—the solemn silence that pervades it, unless broken by the splashing of a paddle of the canoe or light batteau, with which only can you traverse the Pahayokee, or by the voices of your "compagnons du voyage," add to a wakened and excited curiosity, feelings bordering on awe. No human being, civilized or savage, inhabits the secluded interior of the glades. The Seminoles reside in the region between them and the Gulf. Except for an occasional flight of an eagle or a bittern, startled by the strange invaders of their privacy, or for a view of the fishes in the shallow waters, gliding swiftly from your boat as it goes near to them, your eyes would not rest on a living thing, abiding in this wilderness of "grass-waters," shrubbery and flowers Reflections upon the past history of the regions around you, unbidden, force themselves upon the visitor to the interior of the glades. On these islands, in ages that have long since passed away, the haughty and ferocious Carib cacique dwelt.

"He and his people were driven from their homes by more powerful people, who were, in turn, expelled by stronger foes. Here the daring and reckless Buccaneer, of later times, came, after his cruise for plunder, to revel in safety upon his unhallowed spoils. Once in this secluded spot, the Catholic missionary pursued the heavenly vocation of teaching the benighted pagan the truths of the Gospel; and here he sealed his devotion to his God by yielding up his life to the vengeance of the infidel savage. Part of these glades are now in the allotted district of the wily and intrepid Arpiarka, the chief of those of his tribe that fought so fiercely and so obstinately in resisting the enforcement of the policy of the Federal Government of removing them west, and who finally succeeded in constraining the United States to abandon that policy, and to allow them to remain still longer on the hunting grounds, and near the graves, of their fathers. The recollection, also, that the sacred name of "Laguna del Espirita Santo" was given to this region by the Spanish discovers. is not without influence upon the visitor. The effects of such a visit to the Pahayokee upon a person of romantic imagination, and who indulges his fancies on such subjects, it may be presumed, would be somewhat poetic. But if the visitor is a man of practical, utilitarian turn of thought, the first and the abiding impression, is the utter worthlessness to civilized man, in its present condition, for any useful or practical object, of the entire region. A solitary inducement cannot now be offered to a decent whiteman to settle in the interior of the Everglades! Some of the islands may be fertile, but their inaccessibilty, except by small boats, and the entire isolation from society their residents would have to encounter, would deter most men (who did not desire to avoid his fellows either from misanthropy, or fear of justice for crimes committed) from making the glades their homestead."

Whether the Everglades can ever be adapted to the culture of sugar, rice, tobacco, cotton or corn, is undetermined, although many think that they can. Tropical fruits may, however, be cultivated, and the reclaimed swamps will possess advantages for any of the above products. The work of draining would reclaim also the lands for a hundred miles on the Kissime river, and those to the north-westward of the lake. We agree, therefore, with Mr Smith: "The citizen, whether in executive or legislative station, or without either, who succeeds in making fit for cultivation, even if but partially, a region equal in extent to either of the three smallest States of this Confederacy, now as useless as the deserts of Africa, will earn a rich meed of praise from the people of Florida and of the Union. The Everglades are now suitable only for the haunt of noxious vermin, or the resort of pestilent reptiles. The states-

men whose exertions shall cause the millions of acres they contain, now worse than useless, to teem with the products of agricultural industry—to be changed into a garden, in which can be reared many and various exotics, introduced for the first time for cultivation in the United States—whether necessaries of life, or conveniences, or luxuries merely;—that man who thus adds to the resources, wealth and independence of his country—who contributes by such means to the comforts of his fellow men, will merit a high place in public favor, not only with his own generation, but with posterity."

The views of the same gentleman in regard to the action of Government in obtaining valuable seed, etc., we also indorse to the full. "It is proper, also, that I should advert in this report to a subject intimately connected with the favorable success of the primary undertaking of draining the Everglades and rendering them capable of being cultivated profitably. It is the adoption of necessary measures by the Federal Government for the procurement of exotic plants, seeds and roots, and such productions as can be reared there for the use of the settlers. Whilst the manufacturing, the commercial, the navagating, the mechanical, and in fine every other interest in society has been encouraged and fostered, by measures adopted with a view of affording them direct aid and protection, is it not astonishing that the agricultural interest of this country has been so entirely neglected. Excepting the limited assistance given by the Patent Office in the procurement and distribution of seeds, scarcely any attention has been bestowed upon this subject by statesmen of later years. The Federal Government, by means of the navy visiting foreign countries, through our ministers and consuls abroad, could obtain and distribute properly many trees, plants and other productions of the forest, field and garden, and introduce them for cultivation in those parts of the United States best adapted to them. It is not doubted that $10,000 per annum properly applied, and the plants, seeds, roots, etc., distributed among agriculturists and horticulturists, rather than theorists—and instead of placing them in nurseries and show gardens in cities, have them sent into the appropriate section of the country, would be a judicious measure. Hundreds of valuable productions from Cuba, West Indies, Mexico, Yucatan, Guatemala, South America, Spain, Portugal, Italy, Sicily, China, East Indies, Africa, now unknown to us, could be introduced and cultivated in South Florida, etc., etc.

In a letter of Col. James Gadsden of South Carolina, to Hon. R. I. Walker, he demonstrates the practicability of draining the glades, and conceives that it will open to the United States the only portion of her territory capable of competing with tropical latitudes in all those productions which enrich them. Gen. Jessup concurs in their views, and adds: The hammocks in this part of the country are all extremely rich, and would soon be converted into sugar plantations. The swamps are generally peat swamps, which, if drained, would be soon converted into olive, lime and orange plantations, and would be cultivated by a numerous white population, interposed between the free blacks of the West Indies and our slaves Gen. Harney, after some able views upon the matter, declares if it does succeed, in less than five years that region will have, no doubt, a population of one hundred thousand souls and more. Our coast in South Florida is now extremely exposed in time of war.

This population would protect it and afford security to the whole commerce of the western country passing along its shores. There are other letters from distinguished officers of the Topographical Engineers, the Army and Navy, to the same effect. Mr. Sewall, who entered the St Lucie river from the sea, speaks of the settlers there as engaged in the culture of tropical plants, and the turtle fishery. They are endeavoring to get in pine-apple plants, and many were already matured. He saw the cocoa-nut, guava, lemon, lime, orange, banana, tamarind, etc. Sisal hemp is found wild. Sugar cane matures and tassels like corn, a yard long.

A Committee of the Legislature of Florida say: "The United States pay to the West Indies, to South America, to the Azores, to Portugal, and other tropical countries, a large amount annually for their products. South Florida is the only part of the United States where such products can be raised. With the exception of coffee, tobacco, sugar, tea, black pepper, it is believed, with proper encouragement, an amount equal to the entire amount imported into the United States would be raised in South Florida." The arrow root produced is equally as nutritious as that of Jamaica or Bermuda. In 1844, 25,000 lbs. were made in South Florida for shipment. Millions of pounds could be annually produced.

The following in regard to the FISHERIES of FLORIDA, is taken from a report to its Legislature:

"Upward of twenty eastern vessels from thirty to sixty tons burthen, with from five to fifteen men each, are now employed in these fisheries. Several vessels owned by resident citizens of Florida are engaged in them. These vessels supply the markets of Havana and Cuba, generally, with not only fresh fish and roes, but also dried and salted fish to an immense amount. The annual amount paid in Cuba to these fishing vessels, it is believed, exceeds $150,000. The retailing of fresh fish in the market is a monopoly sold for a large amount by the Spanish government there. Those who possess the monopoly receive, it is believed thrice the amount they pay the fishing vessels At present few dried or salt fish are taken from Florida to New Orleans for the western country market or to the northern Atlantic cities, as the profits of the Cuba market are much greater, and because those now employed in those fisheries are not more than sufficient to supply that market. It is anticipated, if properly regulated, hundreds of thousands of dollars of such fish could be sold advantageously throughout the whole Union."

WRECKS ON THE FLORIDA COAST.

	Value vessels and cargo.	Salvage of Court.	Expense.
1844,.....	$ 725,000	$ 67,626 76	$169,064 99
1845,.....	737,000	69 591 99	105.709 51
1846,.....	1,624,000	108,992 00	213,423 00

To the pamphlet on Florida, Mr. Westcott has made a concluding note, which we regard important enough to copy. "It is not a little surprising that, in twenty-seven years since Florida has been held by the United States, no complete nautical survey of the Florida reef has been made. During such time the *British* government has had ships of war, among them the Bustard, engaged for months in such surveys; and even in surveying the harbor of Key West, and other of our harbors there! The charts used by our navigators are the old Spanish charts and those made by the British from 1763 1784, and of the recent British surveys alluded to, and compilations of them by Blount and others, all imperfect

in many particulars, and erroneous in others. *We have no original American chart of all the reefs and keys.* That accomplished and scientific officer at the head of the coast survey, Professor Bache, has informed me, that if the means were appropriated by Congress, the entire reef and all the keys, from Tortugas up to Cape Sable, could be surveyed *in one season.* The expense, to enable the work to be finished in one season, might not fall short of $100,000, as to effect it, three or four parties of officers must be employed. But the benefits of such work would greatly outweigh this amount, and it will not cost less to devote two or three years to it."

ART. IV.—THE NORTH AND THE SOUTH.

SOUTHERN POPULATION AND ITS RELATIVE ADVANTAGES; PAUPERISM AND CRIME AT THE NORTH AND SOUTH; EDUCATION AND LETTERS IN THE TWO SECTIONS; RIGHTS OF THE SOUTH; SLAVERY.*

But it is objected that the northern States are more populous, and, that if the average wealth of their individual citizens is less, the aggregate wealth of the State is greater. This, however, is of no consequence to the argument. The aggregate wealth of Ireland is no doubt greater than that of any of our States, as her population is so much greater. And yet her people die by thousands of starvation. I am considering the condition of our people, as affected by their respective institutions and pursuits. And I think this is the great point in which patriotism and philanthrophy and philosophy are concerned.

But it is asserted that the system of the South is depopulating; that the people of Virginia are deserting her; that the population of Kentucky is almost stationary; and that the whole southern section is but thinly settled, and promises to remain so. If it be meant by all this, that southern modes of living are incompatible with a dense population, I admit it, and rejoice in it. So far as the concentration of people in towns and cities is concerned, I have endeavored to show that such a thing is not so much to be desired Nor do I think it expedient to promote the augmentation of numbers within the territorial limits of a State, by a minute subdivision of farms and plantations among a multitude of proprietors or tenants. Such is too much the tendency in the free States and in other countries; and it has been found fatal to agricultural improvement. It has resulted in France, in reducing the average size of farms to an area of three or four acres, held under their laws of descent by distinct proprietors. And in a part of Scotland, and in Ireland, tracts of a similar size are held by separate tenants And it is precisely among the peasantry of France, the croftiers of Scotland, and the cottiers of Ireland, that stagnation and desolation have overspread the land, and semi-barbarism and starvation the people. The division of land for cultivation into very small tracts, is destruction of its value. The soil of France is, on an average, of unusual fertility, and its climate so genial

* Concluded from September Number.

as to be favorable to a great variety of productions. Yet there, with a dense population of its own, and in the neighborhood of Great Britain, with its mighty cities, the greatest market in the world, the average value of land is only five or six dollars per acre—is less than in Virginia. In England the average size of tracts held by the several sorts of tenure, is about 150 acres, which is about as small as can be made profitable—as small as is compatible with the due rotation of crops, a judicious variety of stock, and the prompt adoption of improvements in culture and utensils. In France, the owner of a three or four acre farm, worth only twenty-five dollars, cannot of course afford to buy an improved plow—much less can the renter of tuch a tract in Ireland. It would cost more than the whole crop is worth. Accordingly a large proportion of French and Irish tillage is performed with the spade, at a great expense of manual labor; and accordingly, it is in England chiefly where the tracts are large, that the modern improvements in agriculture have been made—and there the soil is more productive and profitable. That some Virginians, instead of adopting some of the new methods of preserving and restoring the fertility of their lands, choose to emigrate to new States, where the soil is already rich by nature, and is cheap, results from a mere calculation and comparison of the cost of the two systems. And if it be found more profitable to remove to a new, than to renovate an old soil, it is an evidence of thrift, rather than poverty in the emigrant. And of this, the superiority of the new south-western over the new north-western States, which will appear by a comparison of their property and population is ample proof*

But the impression exists that the population of the South as a section is really stationary, or is declining. And this being assumed, it is regarded as evidence that the people of the South are migrating, either from dissatisfaction with its institutions or with its progress and prospects, or that the vices peculiar to its system are unfavorable to the increase of its population—or that all these combine to depopulate her.

But all this is a mistake. If we deduct from the free States the foreign emigration and its offspring, the residue representing the native population, does not indicate so great a natural increase, as the present number of people in the southern States.

Of the foreign emigrants, no register was kept until 1820. From that year until 1840, it amounted to more than 700,000 persons, accord-

---

* In the Kentucky Auditor's report of 1848, we find a table (No. 16) of the distribution of property in that State, which indicates a degree of wealth, and of its equitable allotment, which may challenge any community for comparison.

Without property,	7,436	parents,
With less than $100 worth,	12,964	"
" from $100 to $400,	12,344	"
" $400 to $600,	5,000	"
" over $600,	28,791	"

It has been alleged, that in the South there are only about 300,000 slave-holders. Well, supposing each adult slave-holder to have an average family of six, the slave-holding population of the South would amount to 1,800,000, which is probably as large a proportion as the land-holding population of the North.

ing to the returns. But large numbers came by the way of Canada, for which, during a considerable period, the facilities were greater than by the direct route. These have been estimated at half the number registered in the customhouse. Assuming, however, the whole number to be a million, which is the lowest estimate I have seen, their natural increase in the twenty years could not have been less than half a million—making 1,500,000. Now the white population of 1840, in the free States, was 9,557,431; deducting 1,500,000 it would be 8,057,431. In 1820, it was 5,033,983, and has consequently had a natural increase of 60 per cent.

The white population of the South was, in 1820, 2,833,585, and is now 4,635,637, which exhibits a natural increase of 65 per cent. I have included all the foreign emigration in the North. A little of it, however, has gone to the South; but not more than the excess of southern people who have removed to the north-western States *

This evidence of the great natural increase of southern white population, is an answer to another imputation against it, very current at the North. It has been held that slavery is a degradation of labor; that, therefore, the white people of the South refuse to work, and live in idleness; and that from idleness they become dissipated, vicious, and violent. But vice is fatal to the increase of population. It destroys constitutional vigor, diminishes the number of children, and afflicts the few that are born, with hereditary infirmity and premature death. One fact is disclosed by the census which is very significant on this point. There is an excess among the white people of the South of 132,072 males. Among those of the North, only 178,275. This is about 97,000 less than the proportion the North ought to have, to equal the South. But when we consider that the foreign population settles almost exclusively in the northern States, and contains much more than its proportion of males, it is apparent that the deficit of the North in male population is much larger. Now the vices of civilized society affect males chiefly, young men and boys far more than any other. And if it were true that the South is more immoral than the North, it would appear in the deficit of male population. But the reverse seems to be the fact.

The explanation of this result is to be found in the same circumstances that determine the relative wealth of the two sections. The South is rural in residence and habits. It does not present the temptation or the opportunity for sensual gratification to be found in city life. It is to cities that the passions and appetites resort for their carnival. The theater, the gaming house, the drinking house, and places of still more abandoned character abound in them, and to these the dissipated youth goes forth at night from home, along the high road to ruin. In the family of the southern planter or farmer, although wine may be drank and cards played, all is done at home under parental and femi-

* It has been suggested that the emigrant population arrive poor, and, therefore, when included in the average of individual wealth in the North, reduces its rates. But the foreigner is generally adult if he is poor: and, therefore, acquires wealth more easily than the native. If, however the emigrant population be stricken out of the estimate, and the whole property of the North divided among the natives, their proportion will yet be far below that of the South.

nine observation, and therefore excess can never go so far. Of course the sons of planters visit the cities, but those in their neighborhood are trivial in size, and meagre in attractions—those more distant are the more seldom seen. The ancient poets, who thought that the lower regions were the abode of great and good men, as well as bad, located the entrance in a remote and solitary place. Thus Homer conducts Ulysses on this visit to the shades of his brother warrior Greeks, to a thinly settled country of dark-skinned people.

"When, lo! we reached old Ocean's utmost bounds,
Where rocks control his waves with ever-during mounds:
There, in a lonely land and gloomy cells,
The dusky nation of Cimmeria dwells."

There he found the portals of the infernal world. So Virgil conducts Æneas to the somber and solemn forest of the Cumean sybil. But with our improved conceptions of the character of that place and its inmates, and the most direct avenues to approach it, the modern epic poet who desires to give his hero a view of it, will have to fix the gateway in the heart of a great city, where the vices hold their revels. 'T is there

"The gates of Hell are open night and day,
Smooth the descent and easy is the way."

It cannot be said that the excessive mortality among the males of the North, is owing to their unwholesome employments. For the females are employed in similar or more destructive avocations. In Massachusetts about fifty thousand women work in factories, and yet in that State there is an excess of 7,672 females, whereas, if the natural proportion of the sexes existed among the native population, or such as is found at the South, Massachusetts ought to have an excess of twenty-two thousand males. So that at present she has about thirty thousand females beyond the due proportion. It is true that Massachusetts loses a portion of her male population by emigration to the West, although she is re-inforced again by the excess of males in the foreign emigrants that have settled there. But there still remains a large portion who must have perished by the sickness and vices of the towns and cities that contain so large a part of her people—Boston alone, with its suburb towns, having a population of 200,000 or nearly one-third of all the State. So, then, the operation of the institutions of this model State of the North, is to violate the laws of nature by a separation of the sexes; to send thousands of her sons away from their happy condition at home, to encounter the hardships of the West; to send multitudes of others to die by dissipation in her cities, and to place her lonely and deserted women, not in convents, but in factories. I have said that there are about fifty thousand women employed in the factories of Massachusetts. Such is the testimony of the official census of the State in 1845. Those who are thus employed, it is well known, are generally young, unmarried women, as such a vocation would be rather incompatible with the domestic duties of wives. Now, according to the census of 1840, there were but about 57,000 women in that State between the ages of 17 and 25. So that about seven-eighths of the marriageable women of Massachusetts, at a time of life that ought to be sacred to love and courtship, to pleasure and to hope, to home and to society, are sent forth from the

parental roof, to labor for years, confined to over-heated rooms, containing a hundred persons each, confined to space of five feet square, for thirteen hours a day, under a male overseer, and not permitted to receive a visit from a lover or a relative in the mill, except by the permission of the proprietor's agent, or at the boarding house except by permission of the proprietor's housekeeper; for such are the regulations and condition of Lowell. This confinement to factories, postpones the marriage of the women of Massachusetts to an average of twenty-three or twenty-four years.* I do not know at what age, precisely, marriages occur in Virginia, but the census shows that Virginia, with fewer adults, has 100,000 more of children.

In determining the condition of civilized communities, it is generally considered essential to inquire into the state of their pauperism; not only because the paupers themselves usually constitute a considerable class, but because their number affects vitally the condition of the entire laboring class.

In the State of New York, the progress of pauperism has been rapid. In 1830, the number supported or relieved was 15,506. In 1835 it was 38,362—according to Chapin's U. S. Gazetteer for 1844. In 1843 or 4, the number had increased to about 72,000 permanent, and the same number of occasional paupers, making a total of 144,000, as appears from the Journal of Commerce. These were for the whole State, and there was thus one pauper to every seventeen inhabitants. In 1847, there were received at the principal almshouses for the city of New York, 28,692 persons, and *out-door* relief was given, out of public funds, to 44,572 persons, making a total of 73,264. So that about *one person out of every five* in the city of New York, was dependent more or less on public charity. The total cost, that year, of this pauperism, was $319,298.88.* For this present year of 1849, the estimate is $400,000, according to the mayor's message.

In Massachusetts, it appears by the returns, that there were in 1836, 5,580 paupers, and in 1848, 18,693. These were all in the almshouses. Those relieved out of the almshouses were 9,817, making a total of 28,510, according to the report of the Secretary of State of Massachusetts. And the returns from 41 towns are omitted. If allowance be made for these, it will be seen that in Massachusetts, one person out of every twenty, is a constant or occasional pauper. It thus appears that in these two States pauperism is advancing ten times as rapidly as their wealth or population. It has become so great as to include large numbers of able-bodied men, who, it appears, cannot, or, what is worse, will not, earn a subsistence; and if such be the case, what must be the condition of the great mass of people, hanging on the verge of pauperism, but withheld by an honorable pride, from applying for public charity.

Now, throughout the greater part of Virginia and Kentucky, pauperism is almost unknown. I passed some time ago, the poorhouse of Campbell county, Kentucky, on the opposite side of the river, and there was not a solitary inmate. And I have known a populous county in Virginia to have but one.

---

* American Almanac.

It has generally been supposed that the paupers of Massachusetts and New York are principally foreign emigrants. But this is a mistake. In the 5,580 paupers of Massachusetts in 1836, only 1,192 were of foreign birth—but little over one-fifth, which does not probably exceed the proportion, then, of that population in the State. In 1845, of 1,016 persons admitted into the almshouses of Boston, 490 were foreign, of whom 382 were Irish; but that was the year of Irish famine. In 1848, of 18,993 paupers received into the almshouses of Massachusetts, 7,413 were foreigners.* We do not know what proportion of the people of that State are foreigners; in Boston there is about one-third.

When pauperism extends to the class that are able to labor, it is evident that the wages of labor are reduced to the cost of subsistence. And hence the whole class must be subjected to the melancholy and terrible necessity of working, rather to avoid the poorhouse, than of bettering their condition. And the pauper in an almshouse is a slave. He works under a master, and receives nothing but a subsistence. And there are already in New York and Massachusetts, about one hundred thousaud persons in this condition; about an equal number occasionally so, and they are increasing at the rate of 200 per cent., while the whole population does not increase 20 per cent. in ten years. In Cincinnati the number of paupers, permanent and occasional, already amounts to 2,000.

Whilst the property of the North is thus compelled to contribute to the support of this great and growing burden, and the labor of the North must not only assist in its support also, but must work in competition with it, they are subjected to another mighty evil, which springs from, or at least is aggravated by, the same causes, and that is crime.

The number of convicts in the three penitentiaries of New York, Auburn, Sing Sing, and Blackwell's Island, is about two thousand. In the penitentiary of Virginia there are only 111 whites, 89 blacks This indicates four times the amount of crime in proportion to the white population in New York as in Virginia. In Massachusetts there were, in 1847, 288 persons in the State prison, which indicates more than twice the crime in that State as in Virginia. Taking all the New England States together, their penitentiary convicts are twice as numerous in proportion to population, as in Virginia, as will be seen by consulting the American Almanac for 1849. It contains sketches of the criminal statistics of the several States, and is New England authority. In Ohio there are 470 persons in the penitentiary—in Kentucky 130, Ohio being 25 per cent. the most, according to population. According to the returns of the Kentucky penitentiary, one-half of her convicts for the last ten years, came from the single county in which Louisville, her principal town, is located—and one-third of the whole number were born in free States. So much for the States of the North, agricultural, manufacturing and commercial. old and new, as compared with those of the South, in crime. The results are uniformly and largely in favor of the South.

If we turn to the official reports of crime in the great cities of the North, we behold a state of society exhibited, at which the mind is ap-

* American Almanac, 1849.

palled. In Boston the number of persons annually arraigned for crime exceeds four thousand, and of this number about one-third are females. So that one person out of every fourteen males, and one out of every 28 females, is arrested annually for criminal offenses. There may be some who are arraigned more than once a year, but on the other hand, there must be many who escape detection altogether.

In New York the proportion of crime is about the same, some eighteen thousand persons having been arrested there last year. Of these, it is said, six thousand were for drunkenness, twelve thousand were committed to the tombs for examination, of whom ten thousand were committed for trial. Of these, there were sentenced to the State prison 119 men and 17 women—to the penitentiary 700 men and 170 women—to the city prison 162 men and 67 women—total 981 men, 254 women; showing an amount of crime in a single city, greater than in all the southern States together. In the Kentucky penitentiary, there is not a single woman—in the Virginia, I believe there is none.

The enormous amount of crime in the eastern cities, which already rivals the depravity of those of Europe, has been ascribed to the multitude of European emigrants. But the returns do not sustain this plea. Of 7,009 persons in the jails and houses of correction in Massachusetts, in 1847, only 1,165 were natives of foreign countries. This is less than one-fourth of the whole number, and cannot vary materially from the proportions of foreign and native population in the State.*

While the South has been so much more secure than the North, in life and property, from individual crime, it has been at least equally exempt from social disturbance. The apprehensions of danger from the dissimilarity of its white and black population, have not been realized. The proportion of white and black remains as at first, about two to one. Even in Brazil, where this proportion is reversed, where there are two blacks to one white, tranquility has reigned for a quarter of a century. And it is remarkable that Brazil and the United States, the only two nations on this continent where African slavery prevails, are the only two who have succeeded in the establishment of stable and flourishing social and political institutions. In all the Spanish American States, where the attempt has been made to introduce political equality among distinct and dissimilar races, it has been followed by incessant insurrection, anarchy, poverty, vice and barbarism.

When the union between the North and South, under our present constitution was formed, the social, political, and economical operation of the institutions peculiar to each, were matters of theory and conjecture. We have now had the experience of half a century; and the result is before us in the facts I have presented, facts against which neither speculative philosophy, nor sectional prejudice, egotism, or fanaticism can prevail.

It will be observed I do not compare the whole people of the North with the whole population of the South. I am *now* comparing the whites only of both sections; it being the first object to ascertain the effects of their respective institutions on the whites of the two sections. I do not compare northern cities with southern—but the white people, rural and urban, together of one section with those of the other. I have

* American Almanac, 1849.

referred more particularly to northern cities, because they contain so large, if not the largest, portion of northern population—and are the boast and characteristic of the northern system. I have also preferred to compare the old States of the sections, not only because they are similar in climate and productions, but because in them the effects of the two systems are more developed, and as has been contended to the great disadvantage of the South.

There is a class of topics of a more intangible nature, but not the less important, and which are much insisted on in this controversy, that now remain to be briefly considered. It is urged that religion and education are more prevalent and flourishing in the North than in the South. It is true that the form of religion existing in New England, and by law established, was extremely strict and self-denying: as that of Virginia—the Episcopal—was then one of the most indulgent of Protestant sects. But it is well known that the Puritan character has been rapidly degenerating and passing away. Indeed the forms of that faith are no longer dominant in Boston, the ancient seat of its power, and in their place the Unitarians have prevailed, and they are gaining ground rapidly in New England. A change has occurred in Virginia, but a change in the opposite direction. Instead of the Episcopalians, the Baptists are predominant in Virginia. Thus, under the operation of their respective institutions, the religion of Massachusetts has receded from one of the most strict to one of the most relaxed systems of the Protestant faith—while Virginia has advanced from one of the most indulgent to one of the stricter forms of religious discipline. There are no means of ascertaining the number of members in all the churches in the several States. Virginia has about 80,000 of Baptists alone: she has 30,000 Methodists,* and a larger proportion yet of Episcopalians than any other State. Altogether she must have her full proportion.

But it is in education that the North claims the great preëminence over the South. In Massachusetts, according to the census of 1840, there were but 4,448 white persons above the age of twenty who could not read and write—and in Virginia there were 58,787. In Ohio there were 35,364, in Kentucky 40,016. In Illinois 27,502, in Mississippi 8,360. Thus it appears that, whilst there are more than twelve times as many illiterate persons in the oldest southern as in the oldest northern State, the proportion changes as we advance westward, until we find a greater proportion of them in a new State of the North than in one of the South. And thus it seems that, in the new States, where children are not educated at public expense, and where, therefore, their parents must provide for them, the children of the South are better educated; or rather, perhaps, it would seem, that the emigration from the North is much more ignorant than the South. Still, however, the odds of school instruction is decidedly with the North. This results from obvious causes. The territorial area of Virginia is probably nine times as great as that of Massachusetts. If, therefore, Virginia were disposed to adopt the common school system, it would require nine times the schoolhouses and teachers to afford the same conveniences for attending school that exist in Massachusetts. Virginia is a thinly-settled, agricultural

* American Almanac.

State, interseeted by several ranges of mountains. In many places there could not be found ten scholars in ten miles square. In such places a population might be able to live comfortably, but not to establish a school, or send their children abroad to boarding-schools. Hence there must be a considerable number without schools. In commercial and manufacturing States, or those of small farms and dense agricultural population, this evil is not so much felt.

But Virginia has a system of oral instruction which compensates for the want of schools, and that is her social intercourse. The social intercourse of the South is probably much greater than that of any people that ever existed. There is certainly nothing like the number of visits among the families of a city or even the same square in a city, as prevails in the country of the South. And these visits are not fashionable calls, but last for days and weeks—and they are the great resource of the South for instruction and amusement. It is true that persons are not taught at such places to read or write, but they are taught to think and converse. They are the occasions of interchanging opinions and diffusing intelligence; and to perform the duties, to enjoy the pleasures of such intercourse, to please, to shine, and to captivate, requires a degree of mental culture which no custom of the North so much demands. Accordingly the South exhibits the remarkable phenomenon of an agricultural people distinguished above all others of the present day by the elegance of their manners and the intellectual tone of their society.

The North excels in books. In history, she has Bancroft, and Prescott; in poetry, Bryant, Halleck and Whittier; in criticism, Everett and Channing. In Sculpture, she has produced a Powers. Her Franklin has drawn the lightning from heaven, and taught it to play harmlessly around our very hearths—her Morse has even given letters to lightning, and lightning to letters! The north excels in the arts and the physical sciences, in inventions and improvements. She excels in associative action, not merely for railroads and manufactures, but for literary, benevolent and religious objects. I do not desire to detract one iota from her exalted merits and high civilization. But in individual character and individual action, the South excels. For a warm heart and open hand, for sympathy of feeling, fidelity of friendship, and high sense of honor; for knowledge of the sublime mechanism of man, and reason and eloquence to delight, to instruct and to direct him, the South is superior; and when the North comes into action with the South, man to man, in council or in the field, the genius of the South has prevailed from the days of Jefferson to Calhoun, from Washington to Taylor. And it is to the solitude which the rural life of the South affords, so favorable to reflection; and it is to the elevated rural society of the South, so favorable for the study of human nature; that we must ascribe those qualities of persuasion and self-command by which her statesmen and captains have moved the public councils, and won so many a field.

The abolition of African slavery in the South has been urged for many years by a portion of northern people. And now its restriction to its present territorial limits is the avowed purpose of almost every northern State. The basis on which this policy rests is the assumption that slav-

ery is sinful and unprofitable. The means now relied on to arrest its future progress is not the persuasion of the people of the slaveholding States, but the numerical power of the free States acting through the Federal Government. Suppose, now, the South had a majority of votes, and were to announce its determination to arrest the further progress of commerce and manufactures in consequence of their poverty, pauperism, crime and mortality, what would be the sentiment everywhere felt in the North? Why, one of indignation, scorn and resistance. Such does the South feel now!

When the North American colonies confederated for resistance to Great Britain, the territorial area of the southern portion of them was 648,202 square miles—that of the northern only 164,084, or about one-fourth as large. Virginia alone had, by royal charter, the whole north-western territory in her limits, and, during the war, had confirmed her title by the patriotism and valor of her own citizens—who rescued even Illinois from British power. But before the present constitution was formed, Virginia, with a magnanimity almost infatuated, had ceded to the Confederacy, for the formation of free States, the whole north-western territory now constituting the States of Ohio, Indiana, Illinois, Michigan and Wisconsin, containing 261,681 square miles, and making the territory of the free States rather more than that of the slaveholding. The object of this cession, and the ordinance of 1787, was to equalize the area of the two sections. The acquisition of Louisiana, in 1803, added 1,138,103 square miles to our territory, of which, by the Missouri compromise, the South obtained only 226,013 square miles, or about one-fifth—the other four-fifths, notwithstanding it came to us as a slaveholding province, were allotted to the North, which thus had acquired more than 700,000 square miles of territory over the South. Florida and Oregon were acquired by the treaty of 1819, by which the South got 59,268 square miles, and the North 341,463, making the North about 1,000,000 square miles the most. In 1845 Texas was annexed, which added only 325,520 square miles to the South, even if all Texas were included. In 1848, we obtained 526,078 square miles more in the territories of New Mexico and California. And now the North claims the whole of this also—and not only this but half of Texas besides, which would make the share of the North exceed that of the South nearly 1,500,000 square miles; a territory about equal in extent to the whole valley of the Mississippi, and leaving the South only about 810,812 square miles, while the North retains 2,097,124, or nearly three-fourths of the whole! And this, too, when the South contributed her full share of the men and money by which the whole territory was obtained. In the Revolutionary war, the South furnished an average of 16,714 men in each year, and the North 25,875, which nearly corresponds with their respective number of citizens, and that, too, although the war was waged chiefly against the large cities of the North—cities being, in war, the most tempting and the most vulnerable points of attack. In the war with Mexico, the South supplied two-thirds of the volunteers which constituted three-fourths of the entire force employed. The revenue by which these wars have been supported, the public debt paid, and the price for the territory furnished, has been raised chiefly by duties which have notoriously operated designedly and incidentally to

promote the industry and capital of the North, and to oppress those of the South.

If, after all this, the South should submit to be plundered of her share of the territory now in dispute, when, as an agricultural people, she requires her full proportion, she would be recreant to her interests, her power, her right, her honor, and her fame—recreant to her history and her destiny.

One of the proposed objects of these northern reformers is to promote the prosperity of the South. I have shown that she wants none of their aid, and that there are at home thousands of criminals to reform and hundreds of thousands of paupers to be relieved, on whom their philanthropy may be exhausted.

Is it for the welfare of the slave they are contending? I hold it to be the duty even of him who undertakes to subvert the established order of things, to manifest at least as much respect for experience as experiment, and it so happens that the experience of emancipation has been ample and diversified.

In Hayti, the black, after exterminating the white population, remained independent and isolated, the exclusive architect of its own institutions and destiny. The result is that they have relapsed into pristine barbarism. The exports of Hayti amounted in 1789 to about twenty-five millions of dollars—they do not now amount to one-tenth of that sum. The Haytien contents himself with the cultivation of a few yams for a mere subsistence, and a mere hut for a dwelling. The blacks and mulattoes are at civil war, and yesterday's papers announced that an army of 20,000 men was advancing against the principal town, Port-au-Prince.

Another plan of emancipation is to send the liberated to Liberia. But besides the expense of such a system, which renders it impracticable, it is attended with the death of from one-fourth to one-half of the emigrants by the coast fever.

The third plan attempted is that by the British, in their West Indies; the plan of gradual abolition by apprenticeship and ultimate equality of black and white; and this also has failed. The exports of Jamaica have already, in the first ten years of the experiment, fallen one-half. The negroes refuse to work, even for high wages, beyond what is necessary for mere subsistence, the planters are bankrupt, plantations are already abandoned, and the island is hastening to the condition of Hayti.

The fourth plan of emancipation is that which has been going on with us. That of manumission by the will of the master, the freedman remaining with black and white, or seeking other States. This experiment has not succeeded. The emancipated slave does not appear to be willing to perform the amount of work necessary to enable him to compete successfully with the white laborer. In the State of New York, the Constitution conferred the right of suffrage on colored persons owning $250 worth of property. Yet in the city of New York, in 1845, out of 11,939 colored people, there were only 103 voters; and notwithstanding their numbers are augmented by frequent manumissions and fugitive slaves, they do not increase so rapidly as the slave population, which is evidence that their condition is not so comfortable. It is also a curious

fact that of 386,293 free persons of color in 1840, nearly half (183,766) preferred to remain in the slave States, where, certainly, as a class, they are treated with no peculiar favor. In Massachusetts, where so much sympathy is expressed for them, they cannot or will not live. There are less now of them in Boston than there was twenty years ago, and both in Virginia and Massachusetts there are ten times as many free colored people in the penitentiary as their proportion of the white population. Is it, then, for the sake of such emancipation as the West Indian, which results in idleness, barbarism, and civil war among the blacks, or for the Liberian, which exterminates, or the American, which subjects them to crime and want, that Philanthropy would undertake to overturn the unrivaled system of southern civilization.

But we are told that slavery is an evil. Well, so is war an evil, and so, perhaps, is government itself an evil, since it also is an abridgment of liberty. But one of the first objects of our of constitution is to provide for war—for the common defense. And the people of the United States prefer the evil of war to the greater evils of being plundered and subdued. They prefer the evil of government to the greater evil of anarchy. So the people of the South prefer slavery to the evils of a dense manufacturing and commercial population, which appear to be inevitable without it; and the black man may prefer the slavery of the South to the want, the crime, the barbarism and blood, which attend his race in all other countries. In the practical affairs of human life in its present state, choice of evils is frequently all that is in our power. Good and evil in fact become relative, and not positive, terms. And the necessity is recognized by the example of our Savior, who applied the extreme remedy of the lash to the money-changers who profaned the temple. It is consistent for a rigid sect like the Quakers to oppose slavery, because they proscribe and repudiate war and luxury and all other evils. And we may all hope for the time to come, when in the progress of Christianity, the evils of slavery in the South, and those of pauperism, crime and mortality in the North, will be greatly mitigated or abolished. But the North can now make no protest, because the luxurious system of northern civilization not only subjects the great mass of the people to unwonted labor and privation, but actually sacrifices in peace a greater amount of life than is usually expended by communities at war.

If then the welfare of neither white nor black in the South would be promoted by the restriction or abolition of slavery, would the prosperity of the North be advanced? The only thing of which the North complains on its own account, is the ratio of representation fixed by the Constitution, which gives the South a vote equal to three-fifths of the blacks. But on the other hand, in consequence of the existence of slavery in the South, the North has a monopoly of foreign emigration. This amounted as we have seen, from 1829 to 1840, to a million and a half, including its increase. In the previous thirty years it must have been, with its increase to this day, at least half a million more. Since 1840 it has amounted to a million besides. So that the North has the vote and the power of three millions of people against the political power which slavery now confers, and that is equivalent to a white population only of about two millions.

And furthermore, by the peculiar agricultural employment of southern industry and capital, the South is a customer and consumer of northern manufactures and commerce, and of north-western agriculture. Abolish slavery, and convert the South into a people of mechanics, artizans and merchants, and instead of being a customer she becomes a competitor of the other section. And if the march of pauperism, crime and mortality, of the North be so great now, what would it be then?

The condition of modern civilization is far more laborious and oppressive than the ancient. The seats of ancient science and the arts were in the mild climates of the Mediterranean shore, or in the south of Asia and Europe. And in America the ruins of her unrecorded civilization are to be found in Palenque and Copan, all in a similar climate. The genius of England has carried civilization to a more northern latitude, and that of America has extended it, if not higher in latitude, to a still more rigorous climate than that of England. The wants of such a climate are great and imperious. The cost of fuel alone in the city of New York, exceeds $16,000,000 annually. The clothing must be much warmer, the houses more substantial, the food more nourishing, and all more expensive than a milder climate. And this great augmentation of the burthens of civilized life, must be borne in the North by freemen, not as of old, by slaves. Hence have we seen the fearful struggle of northern labor for subsistence; notwithstanding the immense aid it has derived from modern machinery and invention. But take from that labor the custom, and subject it to the competition of the South, where so much less is required for subsistence, and that so much cheaper, and the result would be as ruinous to the present system of the North as to that of the South. These two great systems have grown up together. That of the North could not have so much expanded without a market in southern agriculture—nor could this have grown so great, but for the demand and supplies of the North. Together they have flourished—together they must falter and fall. To restrict, therefore, the territorial extension of the South, and by circumscribing its industry render it unprofitable, is to restrict and paralyze the prosperity of the North in all its departments. Together these institutions have marched harmoniously to that eminence and success which have won the prosperity of both at home, and extorted the admiration of the world abroad. If either should fall by the hand of the other, the crime would not only be fratricide—it would be suicide; and over the moldering ruins of both would deserve to be written the epitaph: Here were a people who disputed about the capacity of the African for liberty and civilization, and did not themselves possess the capacity to preserve their own.

ART. V.—EDUCATION FOR PRACTICAL LIFE.*

PROMINENT *importance should be given to Mathematical and Physical Science in every system of Education.*

The rudiments of mathematics may be taught in such a manner as to educate the intellectual faculties at as early an age as those of any other science. The idea of number is among the first which the mind conceives, and in supplying a symbol to express it (which may be done at a very tender age), this mental training is begun. The child must *observe* and *compare* these symbols before he can apprehend their meaning or pronounce their name. The difference in value of the same symbol, according to position, necessitates the same intellectual process as that by which the mind conceives a just discrimination between the varying conditions of any subject of inquiry before judgment, and this exercise has furnished, at the same time, the Alphabet of Arithmetic and of Logic.

As the student advances, this parallel training in English scholarship and mathematical science progresses with him. The whole art of reasoning, says Lavoisier, is but a language well arranged and algebra the most perfect. Nor has there ever been a *careful* student of its methods, who did not approve the sentiment. Its notation is at once simple and powerful, while the general construction of language follows in strict analogy with its laws. Symbols are combined to form words in the expressions which represent quantity, and these in sentences expressing equality or the contrary, in every degree. The rules of algebra are but so many deductions of reason, and its examples the illustrations of their truth.

The study of Geometry opens the widest field for this drill in the art of reasoning. The young student is assured at every step as he passes from judgment to judgment through the complete argument, and is guarded by habit against hasty deductions, while its accurate phraseology exhibits the most forcible illustrations of the compass of language. None can comprehend, in the fullness of their import, the simplest definitions of Geometry, without such an exercise in precision of expression as is met with nowhere else. The study of the mathematics, however abstract, tends to give a proper balance to the mind, in the cultivation of that power by means of which it is enabled to separate the qualities and attributes of objects, and to form the habit of classification. It is a mistake often made, to suppose this process unduly severe. It is natural to man as an intellectual being. Its office is clearly discerned in every mental act. Without it all knowledge is resolved into its original elements and confined to individual things. For, how shall we determine "the agreement or disagreement of our ideas," as Locke has it, in any valuable sense, without such an acquaintance with their attributes as this function, only, can give. Here imagination shapes her material for the

*Having been favored by our friend, Col. Francis W. Capers, President of the Military Institute of Kentucky, with the perusal of his able Introductory Address on taking the chair in that Institution, we appropriate from the manuscripts, which were not intended by him for print, the following pages. They will lose no interest with whatever class of readers.

splendid structures of the Arts, in Poetry, Painting, Music or Architecture, and from this source Memory derives that philosophical arrangement of facts which links them together by affiliation in kind, according to true and important relations.

Immediately connected with these faculties of abstraction and generalization, and, indeed, superinduced by them, is the power of analysis—reason's sense of vision in all the creative efforts of the intellect. It is true that no one field of research or of learning can appropriate their cultivation exclusively, but it is especially within the province of mathematical studies. There analysis is most rigid and the mental habit best secured. How important the acquisition! Pope says he *lisped* in numbers. Here was genius; but many a blotted manuscript attests the labor of a scrutinizing analysis upon the most admired performances of his maturer years. And Byron, the embodyment of genius—a bard whose soul was fire—wrote no stanza of his Childe Harold without interlineation. Why should genius feel such uncertainty in giving utterance to conceptions of power, but for the fact that the most exquisite sentiment, the sublimest imagery—the whole array of figurative language—are subjects of analysis equally with the most elaborate deductions of reason. Without it, grace, delicacy, splendor, have no fitness, no appreciable substance in the arts. Unchecked by this curb of criticism, Imagination cannot perform her perfect office, but strays *away from truth*, in pointless ramblings. Without it, the games of the Palæstra had furnished nothing to painting and sculpture—no ideal of beauty to the Greek—no such names to glory as those of a Phidias, a Zeuxis, or an Apelles.

In whatever cultivates this habit of analysis, we observe a suitable preparation for successful study in mental and natural science. Indeed these sciences owe to analysis whatever advance they have made beyond the merest initials of knowledge. It was the safety lamp of Bacon, by whose light the labyrinthal intricacies of the human intellect were explored, until successive charts supplied material for a classification of its functions and their positive description. By its light the inner caverns of the human heart are searched, the motives of action and the power of passion unmasked, that man may know himself.

If we look to the material world, how vast and sublime its achievements! By its aid, Astronomy escaped from the meshes of the Ptolemaic net, and rising in the majesty of simple truth, divested heaven's bright orbs of the dark mantle of magic and mystery with which Astrology had robed them, and revealed the single principle which binds the spheres in one harmonious system. We owe it to this power, that Geology abandoned the vain and often impious dogmas of the Cosmogonists, and by limiting her investigations to the crust of the earth, constructed a noble science upon the data which it furnishes.

But we are losing sight of the cause in tracing its effects. We refer them all to a proper mental developement and claim for mathematical studies, that they are peculiarly adapted to such training. It is not however in this view only, that they possess prime importance, as educational agents. The student who is thoroughly acquainted with algebra, geometry and the trigonometries, has the whole science of mechanical philosophy and astronomy within his grasp. Not in the profitless sense of a mere collection of phrases (profitless to practical life although they

embody facts), but because of his power to apply their principles whenever pleasure or necessity demand. He is able to delineate the topography of a country and run its bounding lines. He appropriates mechanical agents in construction, with a confidence which experience does not weaken. The heavens become his familiar home. He names their constellations, but from *Reason*, to whose far-seeing eye they have provided points of observation, whence to descry the comet in the depths of infinite space—to mark the path of its progress across the orbit of the spheres, pronounce its name, or prophesy its periods.

Such information would fit a man for usefulness in society and compel the respect of his fellows, though he could not construe a Latin sentence or name the letters of the Greek.

Is he a lawyer? Apart from their influence upon his mind, the merits of a thousand cases depend upon the principles of mathematical and physical science. Is he a physician? How shall he hold with credit to himself, that position of eminence in his profession which every one should strive to attain—how shall he practice understandingly without this aid?

The skeleton of the human frame, "the perfect work of an unerring Engineer" (as Dr. Arnott expresses it), is the concentration of all the mechanical principles developed in nature about him. The human body alive, demands a knowledge of the laws of fluids for the comprehension of the circulation of the blood—knowledge of the laws of pneumatics, acoustics and optics, to understand the action of the lungs in respiration and in utterance, or the phenomena of sight and hearing; whilst chemistry, mineralogy and botany, are elements so essential in the science of medicine, that ignorance of their principles is *ruin*, without the office of the friendly label. Is he an agriculturist, a planter or farmer? They unfold the nature of his soil, and give the world's experience upon the quality of manures and their adaptation to the culture of his grain—the influence of climate and varying seasons upon the objects of his daily care and toil. And shall the clergyman, vested with the high ministrations of his holy office, neglect these sciences—when, without them, he cannot hope to conquer an infidel adversary or wrest from his hands the implements of specious argument with which *his* faith is assailed. No! Let him have them, and besides the power of stronger argument, his spirit shall catch a holier inspiration from a *juster* view of the majesty of his God whose Spirit moved on chaos, in the beginning, to create the heavens and the earth.

ART. VI.—EARLY DISCOVERIES OF THE MISSISSIPPI, ETC.

WASHINGTON CITY.

My Dear Sir—In reply to your inquiries, as to the progress of my History of Florida, Louisiana and Texas, I send you inclosed the proof-sheets of pages 352 and 353, containing the finale of Law's scheme, which will serve as a specimen of the typography and mechanical execution. In a note on page 352,* you

* The following is the note:

Among the various means employed at this time to derive revenue from Louisiana, was the attempt to introduce the leaves of the Cassina, or Primus Glaber of Linnæus, into Europe, as a

will see an account of one of the expedients employed to keep up the price of the India Company's shares, which you may, if you please, publish in your Review: it was no other than an attempt to introduce into Europe, as a substitute for tea and coffee, the leaves of the Cassina or Yoppon, a well known plant growing abundantly on the coasts of Louisiana, and other southern States. I hope to be able to finish the printing of the History, down to the American Revolution, by the beginning of the next year: this will form a complete work, in a volume of about 550 pages. It is nearly all written to the present day, but whether I shall print the remainder, or not, must depend on my health, and on other circumstances. The work was commenced by me six years ago, as a History of Texas; but I soon found that no satisfactory account of that country could be conveyed, without constant reference to what took place in Louisiana; and Louisiana was at first only a portion of Florida. It is, indeed, impossible to separate the early history of the countries bordering upon the northern sides of the Gulf of Mexico, or to understand any events of importance, occurring in one portion, without a knowledge of what took place in another, perhaps at a very distant period.

I flatter myself, that I shall be thus able to offer to the public a connected history of that most interesting division of our continent, from its first discovery; embracing the particulars of the expeditions and settlements of Europeans in those countries, and showing the effects produced upon their advancement in population and general prosperity, by the various disputes and agreements between the governments of the civilized nations, exercising dominion in the New World. Especial attention is devoted to those disputes, and to the treaties by which they were terminated, so far as they bear upon the subjects of the history. The progress of knowledge of the Geography of these countries, is also carefully traced; and accounts are given of expeditions for discovery and conquest, along the coast and through the interior, to which no allusion has hitherto been made, in any work in the English language; while new views, founded upon new facts, will appear, in illustration of the course of the expeditions already often described. Many new facts and views are presented on those points, affording data for the determination of several vexatious questions of territorial limits, which have from time to time agitated our country ever since the commencement of its national existence and still remain unsettled.

In order to show how imperfectly the early records, relating to that part of America, have been studied, I send you an extract from my work, containing the account of the *Second visit of the Spaniards, to the Mouth of the Mississippi*, made some time before the expedition of Hernando de Soto, who has been hitherto universally regarded, as the discoverer of the great river, and in commemoration of whose supposed discovery, an artist of much talent is now employed by our government in painting a picture, to adorn the halls of the national legislature. This extract you may also publish, if you wish, in your Commercial Review. Many other facts far more important will be established in my work with no less certainty, though equally at variance with what is now received without question as history.

I am most happy to see the success of your efforts, to have the local history of the various towns and parishes of your State written by those residing in them: I hope you will persevere in this, as it will render your Review a repository of valuable materials for history.

Mr. Balestier, our Consul at Singapore, whose letter on the cultivation of

---

substitute for tea. These leaves, the produce of a small tree, bearing red berries, called Apalachine by the French, and Yappon by the English, were much used in decoction by the Indians on the whole coast of America, south of the Chesapeake, as a tonic and febrifuge; and they are universally employed in the same way, at the present time, in the lower parts of North Carolina. The leaves are gathered in the summer and dried, or rather parched over the fire, after which they are boiled, and the decoction, bitter and somewhat aromatic, is taken hot in the same quantity and manner as tea. A particular description of the plant and its use, with a colored engraving of it, may be found in "Catesby's Natural History of Carolina," vol. 2, page 57. It is also described by Charlevoix, in the account of the plants of Louisiana, attached to his Histoire de la Nouvelle France. "It began," says the learned and *spirituel* Jesuit, in his letters, "to acquire great reputation at Paris, at the time of my departure (1721): but that was a bad time for reputations and fortunes of all kinds; they passed away as rapidly as they were created."

sugar in the East Indies you published in April last, was here a short time since. He speaks in high terms of your Review, and says that your articles on the mode of cultivating sugar in Louisiana, have produced a great improvement in that branch of industry in the East Indies. Mr. B. is an excellent, enlightened and interesting man, and will be an acquisition to your society, should he visit New Orleans, as he proposes.

With my best wishes I am, sir, truly yours,

To J. D. B. DeBow, Esq., New Orleans. ROBERT GREENHOW.

SECOND VISIT OF THE SPANIARDS TO THE MOUTH OF THE MISSISSIPPI.

The mouth of the Mississippi, first discovered in 1519 by Alonzo de Pineda, who gave it the name of Rio del Espiritu Santo, as clearly proved in the History of Florida, Louisiana and Texas, from the official report of the voyage and the chart annexed to it, of which a facsimile is preserved. In the spring of that year, Panfilo de Narvaez landed with several hundred men on the shore of a bay, which was most probably the same now called Charlotte Harbor, on the south side of the peninsula of Florida, and thence they marched northward to a country called Apalache, which can be satisfactorily proved to have been the south-east portion of the State of Alabama. After remaining for some time suffering from want of food, and undeceived as to the hope of finding rich nations to be plundered, they built boats on a bay named by them Baia de Cavallos, in commemoration of the slaughter of their horses, which appears to have been the same now known as Choctahatchee Bay, communicating with Pensacola Bay on the west by Santa Rosa Sound. With their departure from this place begins the following extract from the History, for which the only authority is the narrative published by Alvan Nunez de Vaca, the treasurer of the expedition and one of the four survivors of the party engaged in it.

"From the place of embarkation the Spaniards pursued their voyage toward the west for seven days, before reaching the open Gulf, which they at length entered through a strait, between the mainland and an island—most probably through the entrance of the Bay of Pensacola, which is just ninety miles from the eastern extremity of the Bay of Chocta-hatchee. Thence they continued their navigation westward along the coast, suffering constantly from insufficiency of food, and often from thirst, as their horse-skin bottles proved useless; and they were obliged in many cases to have severe combats with the natives, in order to procure fresh water.

"Wending their way thus slowly along the coast, the Spaniards, at the end of a month, had reached a small cluster of islands near the mainland, where they were attacked by a numerous party of natives in canoes, who chased them during the whole day, and annoyed them considerably by vollies of stones and arrows. 'Thus,' writes Cabeza de Vaca in his narrative, 'we continued our voyage through that day [November 1st] until the hour of vespers; when, my boat being the foremost, I observed a point of land, beyond which was a very great river, and I halted at an islet off the point, to wait for the other boats. The governor [Narvaez], however, would not come up, but chose rather to remain in a bay very near, where were many small islands; and there we joined company, and *took up fresh water from the sea into which the*

river poured in a torrent. As we had eaten our corn raw for too days, we landed upon the island to parch some; but finding no wood there, we agreed to go to the river beyond the point, *a league distant:* on going there, however, the current was so violent that we were entirely unable to enter, and were driven away from the land, notwithstanding all our efforts and labor to reach it.'

"The river here mentioned could have been no other than the Mississippi, the only stream flowing into the Mexican Gulf, or into any other sea from North America, the waters of which remain so pure and unmixed with those of the sea, as to be potable at the distance of a league from their outlet. This outlet had been already seen, in 1519, by Pineda, who represented it on his chart, under the name of Rio del Espiritu Santo; or the merit of discovering the greatest river of North America, if not of the whole world, should have been assigned to Panfilo de Narvaez and Cabeza de Vaca."

ART. VII.—DYKES AND LEVEES OF HOLLAND AND LOUISIANA.

GEOGRAPHICAL POSITION OF HOLLAND AND LOUISIANA CONTRASTED; SYSTEMS OF DRAINAGE, AND HYDRAULIC ADMINISTRATIONS; AMSTERDAM AND NEW ORLEANS; DRAINING MACHINES, COST AND EFFICACY; INDUSTRY OF HOLLAND, ETC.

THERE are but few parts of the old world which, for a Louisianian, can possess as much interest as Holland. A country mostly below the level to which the bordering sea rises during high tides; where the land is so wet and marshy that, even after the most skillful draining, no building can stand unless erected on piles; but which by a stupendous system of dykes and canals has contrived to conquer these natural disadvantages and to become one of the most prosperous in Europe, is not only calculated to attract the attention of all reflecting men, but is an appropriate subject for the study and imitation of those who inhabit regions somewhat similarly situated.

The resemblance between Holland and lower Louisiana is, at first sight, striking; but an attentive observer can soon perceive that the natural obstacles against which we have to contend here, are quite insignificant when compared with those that have been overcome by the Dutch. On entering the mouth of the Maese and ascending the river as far as Rotterdam, the main features of the lower Mississippi are strongly recalled to the mind: it is the same low-land and, with the exception of some sand-hills near the sea board, the same dead level. The marshy shores of the river, covered with small willows, represent our sand-bars; while the fields are protected from overflows by dykes constructed on the plan of our levees. The resemblance, however, goes no further, for there are no forests: the land having been originally too low to permit their natural growth; but in lieu of them the characteristic wind-mills are seen, and meadows covered with fine cattle and detached houses imbosomed in trees. The dykes, or dams as they are called, instead of being, as our levees, raised a few feet above the soil, are generally so high that they look, at a distance, like fortifications, erected to

repel the attacks of a foreign enemy. The upper surface of the main dykes is wide enough to be used as roads, where two carriages can be driven abreast.

Holland is intersected by numerous gulfs, lakes and marshes; and the extent of the two last is continually increasing, either by inundations or by digging the peat which is the common fuel of the country. The largest of the gulfs, the Zuider Zee, is as extensive as one of the provinces. The lake or sea of Haarlem was formed by the accumulation of sand at the mouth of the Rhine, which backed up the water on the adjacent marshes. Several rivers, ranked amongst the greatest in Europe, pass through its territory and separating into numerous channels, form broad estuaries at their entrance into the ocean. Of the ten provinces into which the kingdom is divided, Guelderland, Utrecht and Overyssel have, comparatively, higher lands: the others are considered as the lowest inhabited parts of the world. A glance at the map will show that in Holland, the most prosperous of the provinces which has given its name to the whole kingdom, water occupies more space than land; and that land may be said to be artificial, for a part of it would be almost constantly covered with more than sixteen feet of water, if not protected against inundation by the most unceasing labor, aided by science and immense out-lays.

In that portion of the swamps and marshes behind the city of New Orleans, which the draining company has undertaken to reclaim, it has been ascertained, by accurate surveys and levels, that the lowest part of the swamp is one foot higher than the water of the Pontchartrain at low tide. The vast extent of marsh, trembling prairie and swamp, which stretches in every direction between the sea shore and our arable lands, is known to be, almost everywhere, higher than the usual level of the sea; and the cultivated part of the State is several feet above it, even during the greatest swells occasioned by storms and hurricanes.

The name of the province of Zealand (Zee, sea) shows that it is a land rescued from the ocean. It is said to be "more completely inclosed by and sunk below the level of the water than any other part of the kingdom. The mariner, in approaching, sees only the points of the spires, peeping above the immense dykes which defend them from inundation."

The Dutch have given the world a splendid exemplar of what men can achieve, even in the most unpropitious country, when to great perseverance and industry, they can add steady and economical habits. Placed so near the sea as they are, and at the entrance of large rivers by which the interior of the most improved States in Europe can be easily reached, their main exertions have been naturally directed to navigation and commerce, in both of which they have been eminently successful. Toward the end of the seventeenth century, when the shipping of Europe was estimated at about 2,000,000 tons, theirs was computed at 900,000, or nearly one-half of the whole. Mr. McCulloch is even of opinion that, at that time, the foreign commerce and navigation of Holland was greater than that of all Europe besides, "and yet," he observes, "the country which was then the seat of this vast commerce had no native produce to export, nor even a piece of timber for ship-building."

The natural growth of the commerce and navigation of rival nations, and various political causes which it is not the object of these notes to examine, have stripped Holland of a great portion of the commerce she once possessed. Her cities have generally sunk below their ancient population; her institutions for the diffusion of learning continue to be ample, but her universities are far from being now as famous as they formerly were; her productive industry is always astonishing when compared to the extent of the country and its original resources, but her manufactures have been greatly checked by the competition of the English. Yet the large accumulation of capital in the hands of her merchants and their commodious situation in the center of Europe, still secure to them an extensive trade. The Dutch seek to attain wealth rather by economy than by speculations, and the cash system is the basis of nearly all their transactions. As they can hardly expect more than two or three per cent. of net profit by any sort of undertaking carried on at home, they are tempted to vest their capital in other countries, and hundreds of millions are lent by them to foreigners. Notwithstanding all the unfavorable changes that have taken place within the last hundred years, there is still left in the country information, prosperity and wealth enough to show that Holland has been the favorite abode of freedom, industry, learning and the arts.

Cold and moisture are the two characteristics of the climate. Sudden changes in the temperature are of frequent occurrence, and fogs are often seen in summer as well as in winter. A summer day in Amsterdam looks very much like a mild winter day in New Orleans. In consequence of the humidity of the atmosphere, and the demand for animal food created by the vicinity of great centers of population, their culture is almost entirely connected with pasturage. The country is, as it were, an immense prairie, intersected by canals and traversed by rows and groups of trees. The breeding and fattening of cattle is one of the bases of their prosperity. Their oxen are of great size, sometimes weighing two thousand pounds; the cows, which are also large, are first rate milkers; but they might, as well as the oxen, be better shaped. The cows are only stalled during winter, and are then kept with the greatest care. Very little attention is paid to the improvement of the race, except as far as color is concerned. By means of that unwearied industry, which is shown by the Dutch in everything they undertake, they have obtained a breed of cattle, the body of which is pure white, while the fore parts as far as the shoulders, and the hind parts as far as the rump, are uniformly black or of some other dark color. A herd entirely composed of cattle of this kind, when seen grazing in a pasture, has a most singular appearance: they look as if they were wrapped up in sheets. Dutch butter enjoys a high reputation and their cheese is in good repute over all Europe.

The lands which are not used as meadows are mostly employed in the culture of tobacco, potatoes, wheat, flax and madder. This latter produce, the quality of which is superior to that of other countries, is the most important crop raised in Zealand, where it is said to yield large profits. It is also one of the principal exports of the city of Rotterdam.

The soil of the islands of Zealand and the greater part of Holland is alluvial, like that of Louisiana, and is much lower. If madder can be

profitably raised there, could it not be cultivated still more successfully here? It has been advantageously tried in Ohio; where, according to the Patent Office Report of 1847, after being allowed four seasons' growth, it produced two thousand pounds per acre, valued at fifteen cents per pound. The gentleman who made the experiment thinks that the yield could be increased to three thousand pounds per acre, and that it is better to harvest the crop at the end of three years' growth, than to allow a longer period. Madder is a very hardy plant which has no favorite country; it is grown in the South of France, Italy, Asia Minor and India, as it is in Holland. It thrives best in river alluvium containing a large proportion of humus. The roots are usually dug, in Europe, at the end of three years; in Provence, however, the plant is often pulled in eighteen months, without injury to the quality; the quantity only is smaller. With our rich soil and warm atmosphere, might not the root be well matured in less than two years?

Horticulture is much attended to by the Dutch, and has attained such importance as to become a profitable branch of industry. Besides amply supplying their own markets with culinary vegetables, they are exported in large quantities to Norway and other districts, where their growth is prevented by the rigorous climate. Ornamental gardening is also well cultivated, especially in its floral department. The commercial flower-gardens of Haarlem have long been the most celebrated for bulbous-rooted flowers. The Dutch gardeners excel in the art of causing a great deal to grow in a very small space, and of accelerating the maturity of fruits by means of hot-beds, sashes, pits and hothouses. They thus obtain what the country could not otherwise produce and can furnish in the midst of winter, whatever can stimulate or gratify the luxurious taste of epicures. Ripe grapes are said to have been sold, in the month of January, as high as sixteen dollars a pound; and they pride themselves on having supplied France with those that were used at the coronation of Charles X.

In lower Louisiana, pears, apples, cherries and several other fruits, cannot be produced: the trees, although they grow well, are unproductive. This is generally attributed to our low and wet soil; but the gardens in Holland, particularly those seen round Rotterdam, are several feet below the level of the canals, yet fruits of every kind are obtained there in as great abundance as in our northern States. Does not this show conclusively that our want of success is rather to be ascribed to the heat of our summers, than to any defect in our soil? We are placed at the entrance of the warm zone; many tropical plants can bear the open ground in our State, but most of them cannot endure our winters without the protection of a green house. The position of plants coming to us from a temperate climate is quite the reverse: to make them thrive, they are to be protected against the sultriness of our atmosphere. The selection of northern exposures and the exclusion of the heat by sheds or coverings, the erection of cold-plant habitations, intended to retain a colder atmosphere, would probably reach that end. We might then, by artificial means, differently employed, obtain here pears and cherries, as grapes are procured in England and Holland.

Amsterdam, the commercial capital of Holland, is situated in a marsh. The whole city, as indeed every house in the province, is built upon

piles driven into the ground. For a common sized house, one hundred piles are required. The Stadt-house, formerly the town-hall, now a royal palace and one of the noblest structures in Europe, is built of free-stone; it presents a square two hundred and eighty-two feet long and two hundred and thirty-five deep; its height is one hundred and sixteen feet, exclusive of the tower, which is sixty-seven feet. Thirteen thousand six hundred and ninety-five oaken piles are said to have been employed in forming its foundation. The Navy Hotel, which is entirely surrounded by water, is built on eighteen thousand piles. As no trees are to be found in the country, except those which have been planted, it is a common complaint that a house costs as much below as above ground. The houses are mostly of brick; stone, having to be imported, is considered too expensive for common use. The bricks are remarkably small: about half the size of ours. This is said to be rendered necessary by the large proportion of clay contained in the soil. The bricks, if made larger, could not be dried without breaking.

Extensive cellars are constructed under almost every house, and by the help of strong walls and good cement, are rendered as impervious and dry as any to be found in London or Paris. Books and papers can be kept in them without being affected by dampness. The use of the same means would, no doubt, produce the same results in New Orleans; where, if cellars could be generally constructed, houses would not only be rendered more spacious and convenient, but, what is perhaps still more important, part of the back buildings attached to them might be dispensed with: the yards could then be made larger, more open to a free circulation of air, and consequently more healthy.

Amsterdam stands at the point of confluence of the little river Amstel with the Y, an arm of the Gulf of Zuider Zee. The port, like that of New Orleans, is somewhat in the shape of a crescent. The city is surrounded by a wide semicircular ditch and regularly cut, in the interior, by four main canals which follow on a parallel line the curve of the exterior ditch. A large number of smaller canals divide the city into ninety-five islands, communicating by draw-bridges, and having sluices for the purpose of regulating the level of the water: those canals are for the most part bordered by fine trees and afford pleasant views. To some of the houses, and sometimes to every window of a house on the first floor, there is fixed a single or double looking-glass or reflector, by means of which a person in the room, sitting before the window, can see by reflection the whole length of the street, the passengers, the trees, the canal and the shipping.

The expenses incurred in keeping the sluices in order, and in clearing the canals and port of mud, are very heavy. The harbor is inconvenient, large ships being obliged to lighten before they can pass the Pampus or bar at the mouth of the Y, and the navigation of the Zuider Zee is also difficult. For the purpose of remedying this defect, a canal, capable of admitting the largest class of merchantmen, has been cut from the north side of the port of Amsterdam to Newdiep, opposite to the Texel, the only spot on the shores of Holland that has deep water. The length of the canal is about fifty miles; the breadth at the surface of the water is a hundred and twenty-five feet; the width at bottom thirty-six, the depth twenty-one. Its level, like that of the Dutch

canals, generally, is that of the highest tides and it receives its supply of water from the sea. The only locks it requires are two at the extremities, but there are, besides, two sluices with flood gates in the intermediate space. It is crossed by eighteen draw-bridges. There is a broad towing path on each side, and it is wide enough to admit of two frigates passing. This canal was begun in 1819 and completed in 1825, at a cost of about $4,500,000; computing its magnitude by the cubic contents of its bed, it is believed to be the greatest in the world.

The innumerable canals with which Holland is intersected, form a most remarkable feature in her economical arrangements and a leading source of her prosperity. The country is so level and water so abundant, that they can be made without much exertion of art or skill. They connect every town and every village, and run through the streets of cities, enabling vessels to load and unload at the doors of the warehouses. By them the Dutch are continually journeying, and conveying commodities from the interior of the country to the rivers; by them also an immense inland trade is carried on between Holland and every part of France, Flanders and Germany. When frozen, they serve as highways, on which long journies are performed on skates, while heavy burdens are conveyed in carts and sledges. But it is not as the means of intercommunication only that they are useful: country seats are surrounded by canals of greater or less dimensions; neighboring farms have scarcely any other dividing lines, and fields have no other inclosures. Many of them are elevated several feet above the soil, to carry off the surplus water which would otherwise inundate it. It is through them that wet and boggy lands are drained and adapted to agricultural purposes; in time of war, they can and have been used in overflowing the country, to protect it against invasion.

On account of the difference in the level of the plains, canals and marshes with that of the seas and rivers, the system by which Holland has been reclaimed from the sea, is not easily understood. Statistics of her commerce, industry and resources, have been printed in every language and are within the reach of all, but the publications relative to the draining of her marshes have only been made in Dutch, and on that account are of no use to foreigners. A report made in 1843, by Mr. Gevers d'Endegeest, the president of the commissioners intrusted with the draining of the lake of Haarlem, has however been translated into French, and contains a synopsis of the method by which the boggy and sterile territory of Holland has been reclaimed and rendered productive. The following practical data have been derived partly from that valuable document and partly from personal observation. They may perhaps be considered as entitled to some attention, now that Congress, by an Act approved March, 1849, has granted to our State all the swamp and overflowed public lands situated within her limits, on condition of her constructing the levees and drains which are necessary to redeem and reclaim them.

Holland is, on the sea coast, protected in part from inundation by a series of sand-hills, raised by the continued action of the wind and waves, and exactly similar to those that have been formed, through the same causes, on the sea shore of some of our southern States. When not contiguous, these sand hills are connected to one another by strong dykes,

which are made to join with those that border the rivers and canals by which the country is intersected. Districts of more or less extent, according to circumstances or the wants of the several localities, are thus formed by an inclosure of embankments, and are placed under the superintendence of administrators, whose powers and duties are defined by law. The main object to which those administrators have to attend is to prevent the entrance of waters coming either from the sea, the rivers, or adjacent districts, which are known under the name of *exterior waters*. As the only means of protection is in the dykes, which form the circuit of every *hydraulic administration*, they are made of immense thickness, and always kept in the best repair. A kind of militia is organized for that purpose, and in every village there is a magazine of proper stores and a body of men, whose business it is, when a certain bell rings, to convey the necessary materials in carts to every damaged place.

But a large accumulation of water is formed, within the dykes, either by rain, the melting of snow, the filtration of exterior waters, or natural springs, which are, however, seldom met with. These *interior waters*, although evaporated in part by winds and heat, would, if they had no outlet, rise high enough to overflow the soil in the interior of the Districts. On that account, every circuit dyke is provided with one or more locks to permit the interior to escape into the exterior waters, whenever the ebb-tides or the land winds cause the last to fall sufficiently. Even if the interior waters could have been discharged without locks, these could not have been altogether dispensed with, to afford a passage to vessels and crafts of different kinds, in a country where so much inland navigation is carried on. When locks are opposed to exterior sweet waters, like those coming from rivers or neighboring administrations, they are often used, during long droughts, to admit those waters, for purposes of irrigation, when the interior waters have been absorbed by evaporation.

An hydraulic administration is therefore composed of a district, either large or small, shut up with dykes, to prevent the entrance of exterior waters and provided with locks to permit the issue of interior waters, the passage of vessels and sometimes the admittance of exterior waters, during dry seasons.

Every hydraulic administration has interior waters, which are contained in lakes or marshes surrounded by dykes; in rivers or creeks which have been closed; in canals and ditches, and often also in turf lands converted into lakes by the extraction of turf. These interior waters, which have an open and direct communication with one another and with the locks, are designated, when taken together as a whole, under the name of *boezem—basin*. The ordinary level of the basin is usually a little lower than that to which the water would rise, in summer, if the country was not shut up by dykes; and as the various basins are the means through which the inland trade of the country is carried on, if the level of an hydraulic administration is different from that of the adjacent one, double locks with flood gates are provided for the passage of boats or ships from one into the other.

Spots of land more or less elevated are found in every hydraulic administration. some are above the ordinary level of the basin and can, without artificial means, discharge the surplus rain water which they

have received: they are called *natural lands;* others are below the level of the basin: these are the *polders* or drained marshes. They are of various extent and depth; from one hundred acres and less, to twelve thousand and more; from one foot to sixteen feet below the level of the natural lands. But, whether large or small, deep or shallow, every polder is surrounded by dykes, from which the surplus water proceeding either from rain, infiltration or springs, has to be taken up, usually by wind-mills, and thrown into the basin.

The basin therefore *receives* the waters which flow from the natural lands and that which the mills discharge from the polders. It *carries* them to the locks through which they escape, if the exterior waters are sufficiently low to permit it; or it *keeps* them, as long as the height of exterior waters prevents their discharge. The basin is, sometimes, also used as a *reservoir* to retain a supply of water, for purposes of irrigation, during prolonged droughts.

A large basin empties its waters slowly, and more time is besides required to keep it supplied during dry seasons. But it has on the other hand a double advantage: it receives a considerable mass of water, without an inconvenient change in its level, which enables the mills to draw as much as they please out of the polders, and it contains during summer, a supply which is large enough not to be destroyed by evaporation or the demands of the reclaimed low-lands. For each of the polders has a sluice, fixed in such a manner as to admit water from the basin, whenever it is wanted; and a long spell of dry weather or heat is not required to create that necessity. Those marshy lands, which are almost boggy during winter, soon suffer from the want of rain in summer. The interior of the polder is cut up by ditches and canals, which serve either to carry the surplus water toward the mills, or to spread the irrigation water admitted through the sluices.

If the basin is small, it has the advantage of being soon emptied in winter; but it labors under the inconvenience of being as easily filled up by the waters which the mills have extracted from the polders, so that these have frequently to be stopped, to prevent the natural lands from being first overflowed, and afterward the dykes surrounding the polders, which are often low and weak.

The polders are under the supervision of *polder masters*, elected at stated times by the owners of the land. They are to act in accordance with their own customs and regulations, and the by-laws enacted by the hydraulic administration to which they belong. This last power has to determine the point at which the mills must stop working, to prevent the water in the basin from being raised high enough to return again into the polders over their own dykes. For that purpose the relative heights of the dykes and waters have been carefully measured, and an accurate scale of the level of the water throughout the country has been made. This scale of waters, which, from the name of the place where it was first taken, is called the level of Amsterdam, is inscribed in a conspicuous and permanent manner in every part of the kingdom.

Innumerable wind-mills are used in Holland to drain the marshes. Their size and price are very different, according to the extent of the polder on which they have to operate, or the height to which the water is to be raised. The small mills, which shift to meet the wind like

weather-cocks, may be had for about $120; while large mills of stone, constructed for deep draining, may cost as much as $12,000.

Wind is the moving power, and the straight paddle wheel the means, employed to raise water. Latterly, however, wheels with inclined paddles and Archimides screws have been preferred. Steam engines have also been tried, but steam is seldom applied for the usual draining of the country; wind is thought to be preferable, because its daily use is less expensive.

This is no doubt true in Holland, where no forest can intervene between the mills and the sea or land breeze. The action of the wind is, from that cause, oftener and more regularly felt than it can be in Louisiana, until the surface of the country is cleared from the woods with which it is now nearly covered. Here, all the wind-mills that have been tried, have had hitherto to be given up, on account of the uncertainty of their operation. In England more than 100,000 acres of marshy lands or fens are drained, in Lincolnshire, by means of steam engines, which have been substituted to the wind-mills that had been formerly erected there under the direction of Dutch engineers. Experience has shown that, even in Holland, calculating the day for twenty-four hours, wind-mills, on an average, are in motion only sixty days in the year: during the balance of the time the wind is either too high or too low. It has also been computed that, after the first draining, the mills to keep their polders dry, must work every year during thirty days.

The Dutch wind-mills, with their paddle wheels, can raise water, on an average, to three feet six inches, but with Archimides screws, which are preferred above that height, they go to six and even ten feet. If the polder is twelve feet deep and the screw is used, then the mills are placed on different levels, so as to form two stories—the upper and lower story. The mills of the lower story lift up the water six feet from the bottom, and discharge it into an embanked canal, usually constructed on a small scale. From that place, the mills of the upper story carry it into the exterior waters: this closed canal is the *intermediate basin.* Two mills, at the depth of twelve feet, can therefore merely exert the force of one: they can only convey into the exterior waters the same quantity which a single mill could have raised from a depth of six feet. In all deep polders an intermediate basin must be used. In the polder of Zuidplas, near Rotterdam, which has an extent of nearly 15,000 acres, two intermediate basins are employed. There three mills, placed on three different levels or stories, exert only the force of one.

Where the level of the common basin is not sufficiently high to procure, toward the exterior waters, the requisite fall, an *upper basin* is sometimes used. It consists in an extent of water, elevated above the common basin and shut up between very high dykes, into which mills, specially employed for that purpose, raise the water of the common basin, so as to enable the polder-mills to continue to work on it. The upper basin acquires by that means the power of emptying itself into the exterior waters, when the common basin cannot do so. It is an expensive but a very useful improvement: it gives an artificial outlet to discharge the waters of the basin, when a natural fall cannot be obtained. It becomes the more effectual as its size is increased.

To exclude the water from shallow polders, small dykes only are raised; larger ones are, of course, required for more extensive marshes: but those erected against the sea or against rivers are the highest and strongest of all. The sea having been known to swell in extraordinary tides, and during the continuance of storms, as high as fourteen feet five inches above the level of the natural lands, the dykes intended as a protection against it must be, therefore, raised above that level. Those against rivers must be, as much as possible, higher than the greatest rise of water, which varies according to circumstances, but is unfortunately found to be gradually and steadily increasing, in consequence of the beds of rivers getting by slow degrees to be more elevated. This renders a proportional increase of the dykes necessary. Jetties, slopes of stone, rows of pickets or piles, beds of fascines, straw or reeds, carefully and regularly fixed, and sometimes brick walls are used, to protect those earthen ramparts against the furious attacks of the waves.

One of the largest and most important hydraulic administrations in Holland is that of the Rhinland, so called because one of the branches of the Rhine runs through its territory. It contains 305,040 acres, out of which 75,930 only are natural lands. The basin occupies 56,070. There are 198 polders, containing 173,040 acres, the surplus water of which is raised into the basin of the Rhinland by 261 mills; so that three-fourths of the whole superficial extent of the administration is under water, or would be so if not artificially drained. The average depth of the twenty-eight deepest polders, which cover an area of 37,050 acres, is fourteen feet eight inches. These 37,050 acres, which are among the best lands in the country, would be covered, in ordinary tides, by eighteen feet two inches of water, and by twenty-five feet seven inches in extraordinary tides and storms, if they were not prevented from returning to the ocean by that perpetual contest with the elements upon which the existence of the country depends.

In this administration is situated the lake or sea of Haarlem, which covers 44,460 acres, and is thirty-three miles in circumference, with a mean depth of thirteen feet. It had formerly about one-third only of its present extent, but the usual action of the water and the force of the waves, exerted constantly on a very light soil, have encroached so much on the land as to unite into a single one four small lakes, which existed in 1531; overflowing a part of the country where three large villages are known to have flourished. Various plans for draining the lake have been suggested during the last two centuries, but the magnitude of the enterprise and the large out-lays required, have prevented any final action on the subject, until the year 1839, when a law was passed appropriating the sum of $3,200,000 for the execution of the scheme. A board of commissioners was appointed to direct and superintend the undertaking, and after a most careful examination, they presented as the result of their researches the following estimates of the probable cost of the three different systems by which the lake might be drained:

One hundred and fourteen wind mills, divided into two stories of fifty-seven mills each, at an average cost of $10,000 for every mill, could remove the whole of the water in four years. The total amount to be expended by that plan is estimated at,..... $1,480,000

Six steam engines, each of two hundred horse-power, applied to paddle wheels and screws, placed in two stories of three engines each, could effect the draining in two years, at a cost of.....$680,000

With three steam engines applied to pumps, combining together the power of 1080 horses, and lifting the water of the lake to its full depth, i. e., working on a single story, the draining could be effected in fourteen months, at a cost of.....480,000

To keep the lake drained, as a polder, after emptying the first water, the yearly expense of the one hundred and fourteen wind mills would be, for each.....260

And for the whole,.....29,640

Steam engines applied to water-wheels or screws,.....29,200

Steam engines applied to pumps,.....21,600

From these results, to which the commissioners state that they have arrived, after allowing every advantage to wind-mills and every disadvantage to steam engines, they conclude that steam is to be preferred to effect the draining and to maintain it when completed; because it is, for a work of that extent, the safest and cheapest motive power that can be used.

The surveys and examinations which preceded the final adoption of a plan; the expropriation of lands; the creation of new dykes; the digging of additional canals, and the widening of old ones to give a better fall and outlet to the basin of the Rhinland, have of necessity delayed the putting up of the machinery, by which the most extensive draining ever attempted is to be accomplished. Two steam engines were, however, put in operation in the summer of 1848; one is located near the village of Kaag and is called the Leighwater, in honor of the engineer who presented, two centuries ago, the first plan for draining the lake. The other bears the name of the village of Sparendam near which it is erected. This second engine is intended to empty the basin of the Rhinland into the exterior waters, in order to prevent the overflowing of that basin upon which the water of the lake is to be discharged. It is of two hundred horse-power, and sets in motion ten paddle wheels, constructed exactly on the plan of those that were erected several years before, for the New Orleans draining company, by that modest and skillful engineer, Mr. T. Communy. Each of these wheels is twenty-five feet in diameter and six feet ten inches wide. They all work on the same shaft, and are so fixed that they may either be all set in motion at the same time, or a part of them only. They raise the water two feet three inches high. When the ten wheels are made to operate together, they throw out a stream sixty-eight feet in breadth, the velocity of which can only be compared to that of the water rushing through a crevasse of the Mississippi.

To construct the Leighwater a circular dyke has been made in a place, near the shore, where the lake is said to have its greatest depth. The spot has been drained, and leveled at the depth of twenty-two feet, and fourteen hundred piles, each forty feet long, have been sunk at the bottom of this deep hole, to receive the foundations of the building. The engine which has been put up there is of four hundred horse-power. It works eleven pumps of cast iron, each sixty-three inches in diameter with ten feet stroke, giving seven strokes in a minute and lifting fifteen hundred and twelve gallons of water at every stroke, or six hundred and sixty-five thousand two hundred and eighty tons in twenty-four hours.

When these two engines were seen, in August, 1848, they had already lowered the water of the lake a little more than a foot. A third machine, constructed like the Leighwater, was soon to be put in operation. No doubt was then entertained that their united action could complete the draining in less than a year, and it is probable that the bottom of the lake or sea of Haarlem is either now in a state of cultivation, or will soon be made to submit to the action of the plow.

The kingdom of Holland contains 11,100 square miles; the State of Louisiana contains 46,431.

ART. VIII.—COMMUNICATION BETWEEN NEW YORK AND N. ORLEANS.

[In the July number, 1849, of *Commercial Review*, an article appeared from Mr. Fairbanks, in advocacy of a route by railway and steam ships across Florida, between New York and New Orleans. The subject has attracted considerable attention from the public press, and been much discussed. It has led the way to the two following papers, which are presented to the reader, in order that he may perceive how fertile in great conceptions and enterprises are our countrymen. Being wedded ourselves to no particular system yet, in this as in other matters, we desire to understand the whole subject and then only determine.—Ed.]

Above you have the subject of article III, in the July number of *De Bow's Commercial Review of the South and West.* I entertain sincere respect for the author of that valuable work, and rejoice, in common with many others, that his labors have been resumed under auspices more favorable for the just reward of his service. I agree with Mr. De Bow, that "the idea of bringing New Orleans and New York, those great emporiums, by a safe and pleasant medium of travel within four days distance of each other, is worthy of the progressive spirit of the age, and is but another indication of the high destinies of our country." But I claim for Georgia the merit of starting, and being under way at the present moment, with the most flattering prospects of success, in the interesting work referred to. I do so, in no captious or complaining spirit—with no view of detracting from the merit of the projectors of the Peninsular railway—but in the hope that these lines may meet the eye of the intelligent author of the *Review.* I desire not to be understood as claiming for Georgia the merit of the idea of connecting by railroad the Gulf of Mexico with the Atlantic—and thus New Orleans with New York—for the subject has long been discussed. But I do maintain that the proper communication is through the line now being worked out in this State.

By the *Peninsular* route the plan is as follows:

"The distance from New York, by sea, to St. Marys, by the usual route for vessels, is about seven hundred and fifty miles; St. Marys being but about ninety miles from Savannah. The Cherokee has, with ease, made the voyage to Savannah in sixty hours, and could readily make the voyage to St. Marys in sixty-five hours. By the railroad route proposed from St. Marys on the Atlantic, across Florida to Cedar Keys on the Gulf, a distance of one hundred and forty-five miles, five hours would place the traveler on the Gulf, and the three hundred and seventy-five miles to New Orleans would be run in thirty-five hours; thus giving one hundred and five hours, or about four days, as the running time from New York to New Orleans, and, including all detentions, in less than five days, even at the present rates of speed, which are constantly being increased; a shortness of passage rendering all competition by

any other route *entirely out of the question.* When taken in connection with the advantage of having only two transfers of baggage, and the superior comfort, convenience, and safety of traveling by sea steamers, would ensure for such a route, when established, nearly all the travel from New Orleans and the Gulf ports, North Texas, Mexico," etc. *Review No. 1., New Series, page* 47.

"The South-western Railroad" of the State of Georgia, beginning at Macon, and terminating at Fort Gaines on the Chatahoochee river, a distance of one hundred and fifty miles, was designed by its authors and projectors to develop the most fertile and valuable new cotton growing region in all the South, and also to be part of the line of railroad from the city of Savannah to Pensacola. It was claimed for this route that it would be "a line on the way, from New Orleans to New York which never could be *headed.*"*

This road is now being constructed. Over five hundred hands are at work on it—over twenty-five miles have been graded, and it is certain that the first fifty miles crossing the Flint river will be completed by the first day of September, 1850.

From Fort Gaines on the Chatahoochee river, to Pensacola, the distance, by the map of the United States, is one hundred and fifty miles. The Central Railroad to Savannah from Macon is one hundred and ninety miles long. A line, then, by ocean steam ships from New York to Savannah—a line of railroad from Savannah, by Macon and Fort Gaines to Pensacola, and again a line of ocean steam ships from Pensacola to New Orleans, would constitute the most expeditious and most profitable line which could possibly be made, with a view to the connection of New York and New Orleans.

I will endeavor to illustrate this, and think I can do so to the satisfaction of every candid mind:

1. "The *Cherokee* has with ease made her voyage to Savannah in sixty hours." The line of railroad from Savannah to Pensacola will be four hundred and ninety miles, and will be run, *calculating the speed at just the same rate that the Review indicates for the Peninsular Railroad,* in seventeen hours. The distance from Pensacola to New Orleans by the map is one hundred and sixty miles, and can be run (taking again the speed of the Review) in fifteen hours and a half—making the whole time from New York to New Orleans *ninety-two hours and a half,* against one hundred and five hours by the Peninsular route.

2. The line by Savannah, Macon, &c., is actually *shorter* than the line by St. Marys and Cedar keys. Take a line from Sandy Hook to Cape Hatteras, thence to Savannah, Macon, Pensacola to New Orleans. Then take a line from Sandy Hook to Hatteras, thence to St. Marys and Cedar Keys to New Orleans, and the latter line will be found to be some thirty miles the longer of the two. But allowing that by the map of the United States, the two lines spoken of, viz: the *Peninsular* and the *Georgia* lines, are of equal length, and it will follow that the Georgia line must be the most expeditious, because on it there will be three hundred and fifty-five miles of railroad more than on the other, and railway speed is nearly three times as great as ocean steam-ship speed.

---

* See Report upon Preliminary Surveys of the South-western Railroad.—*Appendix, p.* 39, *etc.*, 1847.

Thus, it appears to me, is it fairly demonstrated, that the line by Savannah will be the *most expeditious*. That the line will prove the most profitable—that it will be more certainly sustained than the other—can be made equally clear.

1. The Peninsular line has not a town on it of fifteen hundred inhabitants. The railway part of it is through an uncleared, unsettled country, with scarcely any population. There will be nothing but *through travel* to sustain it.

2. The line by Savannah meets at that city a large and growing population—it passes by the important cities of Macon and Pensacola, and the Georgia Railroad portion of the line will be through a country producing and receiving some 250,000 bales of cotton annually.

3. The Central Railroad is now a profitable road, paying seven per cent., and it is destined to pay much more. The South-western Road from Macon to Fort Gaines, through, and draining the richest cotton region, will certainly, *by freight alone*, pay seven per cent. interest on the cost of it; and the road from Fort Gaines to Pensacola, it must be admitted on all hands, will at least be worth as much, intrinsically, as a road from St. Marys to Cedar Keys.

It requires, I apprehend, but little calculation or reflection to see the advantages of the Georgia over the Peninsular route. The interest of the United States in having a railroad from the best southern Atlantic port, Savannah, to the best port on the Gulf, Pensacola, is sufficient of itself, if all other things were equal, to give the preference to the line for which I contend. When the consideration is added, that the Central Railroad is now part of the Georgia line—that fifty miles of the South-western road will so speedily be opened—that the remainder of the line to Pensacola, two hundred miles, can be put in operation about as soon as the one hundred and forty-five miles of Florida railroad—that the inducements to the construction of the line to Pensacola, are much greater than they can be to the building of the other,—what judicious mind can hesitate to determine in favor of the route for which I contend.

It is due alike to truth and to the good judgment of the projectors of the line to Pensacola, to say a word on the subject of St. Marys harbor. It is stated in the *Review* (page 47), that the harbor of St. Marys "has a depth of thirteen feet on the bar at its lowest tides, and some twenty-three at high tides," and that "this is better than Charleston, and equal or superior to Savannah." It is notorious in Georgia, that the bar of Savannah river has the greatest depth of water on any river bar on the Atlantic south of the Chesapeake bay. All the harbors south of the Chesapeake bay were examined by a commission composed of captains Woolsey, Claxton and Shubrick, of the navy, and they reported as follows:

"Depth of water and easy access being objects of the first consideration, they (the said officers) are of opinion that the ports of Charleston, Darien and St. Marys, being deficient in depth of water to permit the entrance of a larger ship than a sloop-of-war, *are unfit to compete with the frigate harbors* of Beaufort, Savannah and Brunswick. The bar at the mouth of the Savannah river *is the deepest and most accessible of any on the southern coast.* The average depth is nineteen feet at low water."

The spirit which has been evinced in Georgia in the construction of railroads, is a sure guarantee that the South-western Railroad will soon be

finished. Even without the railroad from Fort Gaines to Pensacola, a good communication will thus be opened by the Apalachicola river to New Orleans, such a communication as would compel (but compulsion is not necessary) the people of Pensacola to build a road to Fort Gaines.

You, Messrs. Editors and the Editors of the Savannah *Georgian*, have always done your part in giving light to our people on the subject of our roads. Arouse them now, I beg you, to the importance of finishing without delay the South-western Road. Let them know that since the acquisition of California—the grant of a right to pass, by railroad, the Isthmus of Panama, and the establishment of mail steam ships on the two oceans—the course of the commerce *of the world is soon to be changed*—changed before we can, with our utmost diligence, be ready to receive and pass through Georgia and through this city the multitudes who will follow that commerce. If the people of Georgia embrace the present time, if our next legislature shall grant liberal aid to this great work, in a very few years there will be nothing wanting to make this the *second State* in population and wealth of this Confederacy.

The fact has been presented that this route is, in straight lines, by the map of the United States, the shortest route. It is very plain that it will be the most expeditious route, because near five hundred miles of the way will be by railroad *through a remarkably level country*. In point of profitable investment, the Georgia route must certainly surpass the Florida route, because it will go through the heart of the most fertile and virgin cotton region in the United States—a region already well peopled and destined to sustain a very large population. These remarks are applicable to routes made up of land and water carriage.

We should not, however, shut your eyes to the fact, that in a short time, the railroads of South and North Carolina will be connected. Nor should we fail to consider what will be the effect of that junction of railroads on the communication between New York and New Orleans. If a straight line be drawn on the map from New York city to the city of Pensacola, it will be found to pass *into* Georgia, not far above Augusta—to run a very short distance westwardly of Macon, and to pass out of the State very near to, and a little south of, the city of Columbus. If the existing lines of railroad be now recollected and considered, it is very certain that whatever may be the plan of joining the North and South Carolina Railroads—whether by Wilmington, Manchester, &c., or by Raleigh or by Charlotte—*the city of Augusta will be on the line*. The tendency to this has been seen by many for years past; the fact that the State of Georgia is to be entered by a long line of railway from the North and East at Augusta cannot be disputed. It must be admitted, that the line of railway from New York to Augusta, will be *as short* as the ocean line from New York to Savannah, and, consequently, to St. Marys, Georgia. As railroad speed cannot be approached by steam ship speed, it is manifest that the most expeditious plan of carrying the great mail of the United States will be by railroad *through Augusta*, if a road is built from Augusta to the eighty mile station of the Central Railroad. The Government will not, four years hence, pay for the carriage of mails by sea between New York and the South Atlantic coast. Wherever the mail shall go, many, in fact the

greater number of men *on business* will go. We should then look at Augusta as the starting point in Georgia whence the mails and consequently much travel will go, to and fro, across the State.

In this connection the intelligent reader will not fail to see the great importance to Augusta—Savannah and the Central Road—to Macon and south-western Georgia, southern Alabama and western Florida—of a railroad from the city of Augusta to the Central Railroad. This latter road built, and then the New Orleans mail route must *of necessity* be through Macon and the South-western Railroad.

The commanding position of the State of Georgia in the matter of internal communication of the Union, is now apparent to every one. We held the key to the West; we have opened the door by the Western and Atlantic Road. We hold the key to the Gulf of Mexico; let us now but open that door also, and we will arrive at a point of prosperity, the equal of which but few of our sister States will ever see.

Let me say a word for Savannah, and show the great advantage she has at this day over the city of Charleston. The latter city strained all her strength to get the trade of Georgia, and of the West through Georgia. She failed in her true policy of looking North instead of South. The great *metropolitan* route, between the North and South, might, if Charleston had pursued her true course, have been through Wilmington and Charleston and Savannah—a route through all the southern sea ports on the Atlantic line, instead of a line through the middle country. But now that great route approaches Charleston no nearer than *Branchville*—it cannot be made to approach Savannah nearer than the eighty mile station of the Central Road. Both Savannah and Charleston then are off the main mail railroad route.

But whilst it is seen that the great mail of the Union will so pass by Augusta, it does not follow that the great mass of promiscuous travel will be by the same line. The combined line of steam-ships and railroad by way of Pensacola and Savannah will be short of the mail line in point of speed, but it will far surpass it in comfort and ease of travel, and moreover it will prove the *cheapest* line between the two great points, New Orleans and New York. Open the line from Macon to Pensacola, and the traveler from New York will reach New Orleans in ninety-six hours, and the line itself will be supported and fairly compensated upon a through rate of $35 the passage. Savannah being so much to the South and West of Charleston, and so much nearer New Orleans has the advantage of Charleston. In a word, the opening of a road from Augusta to the Central Road and from Macon to Pensacola, will secure the city of Savannah against all rivalry whatever. The people of Savannah have looked at this state of things—they have invested some $400,000 in the South-western road; that line will go on. They have striven to obtain the road from Augusta to the Central, and every sign is now propitious for this crowning work.* C.

* The above was published in an *extra* of the Savannah Republican, and forwarded to our address.

ART. IX.—DIRECT RAIL ROAD ROUTE FROM NEW ORLEANS TO NEW YORK.

A WRITER in the July (1849) number of the Commercial Review, calls public attention to a route from New Orleans to New York via Florida. He would take his passengers hence by steamer to Cedar Keys; thence across the northern part of Florida by railway to St. Mary's; thence by steamer to New York; and thinks the voyage could be accomplished in about four days, the distance being nearly thirteen hundred miles. The route certainly offers great advantages, and in this progressive epoch time and distance are valuable considerations: but when we set about economizing, let us do it effectually. It is useless to do indirectly and by degrees, what can be effected directly and at once; and in laying out a railway circuits must be avoided, if possible.

A continuous railway may ultimately pass from Mobile through Augusta to New York; but another and a better route can be selected—a route from New Orleans through the south eastern part of Mississippi, diagonally through Alabama, across the eastern part of Tennessee, through Virginia between the Alleghany mountains and the Blue Ridge to Baltimore, or across Maryland to Philadelphia. The distance is less than nine hundred miles, the route is undoubtedly practicable, and a double track would allow the journey to be accomplished in two days, at considerable less cost than that now incurred by the passage by mail or steamer.

From New York to Philadelphia and Baltimore, the iron horse already travels. The only additional expense necessary through that section of a railway between New York and New Orleans, would be the outlay for another track over a road already graded. From this city, the old Nashville Company laid the rails twenty-four miles over marshy and difficult ground. A portion of the work is therefore completed, leaving about six hundred miles of new track.

The Georgia railway has been carried from Savannah over a hilly country to the confines of Tennessee, and it is to be pushed across the southern Alleghanies and the Cumberland Mountains to Nashville and perhaps to Memphis. The direct route hence to New York would encounter no greater obstacles than those already surmounted and to be surmounted by the Georgia and Nashville line, and of course would be attended with no greater expense per mile, while it would be productive of greater advantages to the public and more profit to the proprietors.

Let us see: take down your map and trace it. It passes, nearly the entire distance, through a fertile region, into which neither steamboat nor locomotive has yet penetrated. It brings that region into easy communication with the two great commercial marts of the republic. It offers to the planters and farmers of the region a market for their produce, as it were within a stone's throw of their doors; and it would add a new impetus to the trade of the whole country.

The expense of the road, including a double track, turn-outs, buildings, bridges, tunnels, trains, locomotives and apparatus of every kind, probably would not exceed twenty million dollars, and I believe it would fall below that estimate.

The receipts, without question, would go far beyond the most sanguine calculations. In the case of almost every railway in the United States, the receipts have exceeded the estimates, and there is no reason to believe this would be an exception to the rule.

Probably the number of passengers, who would annually pass to and from the extreme points over the whole distance, would not be less than sixty thousand, who, at fifty dollars per head, would yield three million dollars; and if we add to this the receipts for freight and way-passengers, the revenue would exceed four millions per annum. Deduct the expenses, salaries, etc., and we have a net profit of at least fifteen per cent. on the investment. This may seem extravagant, but a close examination of the proposed route—an inquiry into the capacities and resources of the region, and the number of passengers that would pass to and fro, must satisfy any one that my estimates are within bounds.

Then, as to the time which would be required to make the transit. By means of a double track, the delays in waiting for upward or downward trains would be avoided, and the moderate speed of twenty miles an hour, would take travelers from New Orleans to New York in about two days. Increase the speed to twenty-five miles an hour, and the journey would be accomplished in forty hours, including stoppages.

This route is certainly worthy of consideration, especially to the traveling and mercantile community; and I trust you will not fail to call public attention to it, and continue to do so until the work has been commenced. The road is practicable—it will be profitable; and, depend upon it, it will be made. Men will not incur great fatigue, and waste a week in going to the North or back, when the passage can be made in less than two days.

I profess to have no very accurate knowledge of the statistics of the region alluded to; but if I succeed in attracting the notice of business men and of writers conversant with the subject, I shall consider the work half done.

ART. X.—PUBLIC IMPROVEMENTS OF CHARLESTON—Part 1.

In a former communication on the "*Resources of Charleston*" I availed myself of the opportunity to award to my native city her full meed of credit for commercial advancement and increasing facilities for business. To a compliance with your polite request that I should introduce her again to your readers, a few leisure hours have been dedicated—and you must be satisfied to overlook the hasty and imperfect manner in which the following is written. As you desire that some notice should be taken of her more recent improvements in the industrial arts, and works of public and private enterprise, I will confine myself in the present brief sketch, to a review of those now in daily progress or prospective, and the results of which so far give promise of benefit to the community.

Three especially useful enterprises, yet in the infancy of their existence, but already promising valuable consequences, are developing severally the most important resources of this section of the State. These are—her capacity for home production and the opening of new avenues of labor. The objects to be accomplished have been long urgently needed. They embrace—

1. *An unfailing supply of pure, wholesome Water.*
2. *A more convenient, effectual, and economical mode of lighting the city.*
3. *The encouragement of the manufacturing and mechanic arts by means of Associations and Factories.*

With the first is inseparably connected an investigation of the Geological characteristics of the State—and the aid of our scientific men has been freely given to its prosecution.

1. THE ARTESIAN WELL.

This enterprise was commenced in May 1847, under the superintendence of Gen. A H. Brisbane, since elected Professor of History and Belles Lettres of the State Military Academy, who carried it to the depth of 290 feet. He followed the method pursued by the most successful European Engineers, boring with a diameter of 11 inches for the first sixty-three feet, and of eight inches for the whole distance below. After Professor B's. election to that Institution, the services of the present Superintendent, Mr. Welton, of Alabama, were secured. This gentleman brings to the work the practical experience of sixteen years, devoted to the business. Amid the many opposing obstacles which have materially retarded his unwearied labors, he has penetrated the depth of upward of nine hundred feet, continual torrents of quicksand pouring in all the time. It is estimated that a column of sand has been drawn out of the well more than 4000 feet in height—and for fully one-fifth of the way, the course has been through rocks so hard as to require the use of the chisel. The instruments used in the Alabama system of boring, are the auger, the chisel, and bucket, which are sent down by means of wooden rods. For a minute description of these tools I would refer your readers to the following extract from the Notes of Dr. Lynch, one of our most distinguished Geologists, whose coöperation and counsel have been invaluable, and freely given to those engaged in the prosecution of the work :

"The rods used by Mr. Welton are about 27 feet long and $3\frac{1}{4}$ inches in diameter, of strait grained, well seasoned pine, tapering toward their extremities, where they are armed with iron heads which are screwed into each other. The proper tool, screwed to one of these rods is first let down, until the other extremity of the rod just protrudes above the mouth of the well. In this position the rod is held by an iron catch or yoke, until a second rod is screwed on to the first. The first rod is then released and the second rod is let down until its upper extremity simply protrudes, as the first did, when it is similarly caught, until a third is attached to it; and so on, until the tool is on the bottom. The last rod is furnished with a cross-bar or handle, by which two workmen can raise or turn the rods as required. The whole again is elevated, when required, by a moveable pully, the rope of which is wound on an upright drum, eight feet diameter, turned by horse power. The upper rod is raised by the takle, until its lower extemity is clear, and above the mouth of the well. The upper extremity of the second, which now protrudes, is caught by the yoke and held, until the first is unscrewed and laid in its place. The second is then raised as the first was. The protruding end of the third is caught and held, while the second is unscrew-

ed and laid aside. The others are then taken out in succession, and placed in their positions, after the same manner, until the tool is reached. To draw up twenty rods without loss of time will occupy nearly an hour. They can be let down, however, unless when the chisel is attached, in far less time. So nicely is the balance of wood and iron preserved in these rods, that, when the well is full of water, a single workman can lift 550 feet of length, with the auger attached. This must, of course, give the operator great command over the instrument, and enable him to feel and guide its working, even at that distance, with the nicest accuracy. Nor is this lightness gained at the expense of strength. For the iron screws, an inch in diameter and carefully made, and the wooden rods over three inches thick, are more than amply sufficient for any strain which they are required to bear. On the contrary, where the iron rods are used, the weight of the upper rods, which, in a deep well, may reach two or three tons, besides rendering the whole apparatus unwieldy, is, often, enough to bend or break the lower rod. At the Paris well, 1796 feet deep, they reached the enormous weight of 68,200 lbs. Moreover, this bending of the iron rods, for which there is ample room (the bore being four, six or eight inches in diameter, and they scarcely ever more than one and a half inches thick), produces much friction against the sides of the well, and has likewise a tendency to drive the tool at the bottom into an oblique course; whereas the wooden rods, being light, have no cause, and as they nearly fill the bore, have no room for any such deflection. They must bore on, in the direction in which they have been started. Their lightness and cylindrical form reduce the friction almost to nothing, compared with that attending the use of the other rods.

"The *auger*, for which Messrs. Cooper & Welton have a patent, is exceedingly simple and ingenious in its construction. A steel blade an inch wide and half an inch thick, tapering somewhat toward its point, is twisted two or three times and terminates with two cutting edges like a bitt for boring iron. About six inches above its point, it is armed with two other bitts somewhat like those of a plane, above an inch and a quarter broad and two inches long, inclined at an angle of about 45 degrees, so as to suit the curvature of the twist. Above the points, where they are securely attached on either side to the central blade or stem, they recede horizontally for about one-sixth of the circle, so as to give some support on which the load above can rest, yet not so far, as that either shall impede the ascent of the portion of earth cut by the other. This instrument is then screwed into a metal tube, which itself is screwed into the lower wooden rod. The entire breadth of the auger is three and a half inches. The two side bitts cut in the same direction. The load gradually ascends, or rather is forced up their inclined face, and becomes packed around the stem, in the cavity above. It is in drawing up this load, especially when it is large, that, in the ordinary system of boring, the engineer finds his greatest difficulty. The load will often pack so tightly, as to become a piston, perfectly air and water tight in the well, leaving, when raised from the bottom, a *perfect* vacuum below it. Under such circumstances, no mechanical power can extract the load from any depth. Either the load or the machinery must yield. The workman, generally endeavors, by turning the auger and load while raising

them, by lowering them a little when tight, or by other devices to cause the water above the load to pass round it, and to enter the vacuum below, by which means he may extract his auger, though with the loss of the load. This, however, is a trifle compared with the danger, which he does not always escape. The pressure from above will sometimes compress the load to the hardness of stone, so that the water cannot work through, or by it, to fill the vacuum beneath and relieve the auger. This is the usual cause of the breaking of instruments in the well. At the Paris well, between 1300 and 1400 feet, such an accident occurred; in consequence of which, the auger was caught, and more than 1300 feet of iron rods broke off and fell to the bottom. The jar of collapse was felt to some distance like that of an earthquake. There was no way of extracting them but by enlarging the diameter of the well, all the way from the surface to beneath the auger, so as to destroy the vacuum—an operation which occupied fourteen months of hard labor. In the auger under consideration, this evil is admirably guarded against. The upper stem of the auger, eighteen or twenty feet long, is a metal tube, having near its upper extremity three or four suitable orifices. The upper part of the central bitt, where it is screwed into the stem, is likewise a tube, and has two vents below the side bitts. When, therefore, the load is raised, the water or air above enters through the orifices, rushes down through the stem, and is discharged through the vents into the well, *beneath* the load. A more ingenious or effectual provision against this evil could not be devised.

"In the action of the auger, it is plain that as each shaving or slice is forced up along the inclined bitt, it must raise the mass already bored, before it can become, as it ought, the lowest layer of the load. From this fact, the auger would soon become clogged, in a stiff, tenacious soil. A dexterous manipulation averts this evil. When six or eight inches are bored and packed, the auger is elevated about a foot. This is found sufficient to give the load the firm, piston-like character already referred to. The auger is then sunk quickly. The load, upheld by the water that has already passed below through the stem during its elevation, retains its place, while the open auger passes freely through the water, with its bitts as unclogged as when first sent down. Six inches more are bored, and by a second elevation that mass is added to the first load. A second rapid descent unclogs the auger, which again *bites the earth*. In this way, as much as ten feet or more may be bored through, in suitable soils, before it is necessary to draw up and unload the auger. Such are the loads usually brought up by this instrument in the Alabama wells. In the Charleston well, though it bored with the same efficiency in the firm marl, and brought up the load safely as far as the iron tubes, yet the current of water which their larger diameter allowed to pass around and along the sides of the load, never failed to wash a great part of it away. The evil had to be borne in patience. For that diameter was necessary, in order to allow other tubes to be sent down through them hereafter, should it be found necessary.

"Where a rock, or a stratum, too hard to be bored by the augur, occurs, a *chisel* of three and a half inches cutting edge, is screwed to one or two iron bars, the whole weighing three hundred or five hundred pounds accordingly as one or both bars are used. This too, is joined by

the wooden rods, and let down on the rock as the auger would be. The whole is raised about two feet by a lever moved by horse power, and falls by its own weight. An ingenious arrangement, devised by Mr. Welton, saves the rods from being injured by the concussion. The chisel ordinarily gives twelve blows a minute, and is so turned by the upper or handle pole, as to strike in different positions. Mr. Welton has met, in this well, with rocks so hard that 3600 blows scarcely gained 10 inches.

"The detritus of the rocks chipped by the chisel, or whatever portion of its load the auger may have failed to bring out, as likewise the sands that may enter the well, are drawn out by a copper tube or *bucket*, 3¼ inches diameter and 18 feet long, having a valved bottom opening inward. This is attached to the rods in the same manner as the auger. Since it nearly fits the well, whenever it is thrust downward, the water and mud beneath must rush upward through the interior. When it reaches the bottom, a quick upward motion closes the valve and secures the load. It is then drawn out and emptied.

"Of the various tools for extracting rods or whatever else may be lost in the well, I will say nothing. For accidents are so carefully guarded against, that they are but little used. When required, however, they come forth, as ingenious as the augur itself, and as well suited for their various purposes.

"These simple tools, working so regularly and so effectively, compared with the cumbrous and multiform machinery devised by European engineers for boring Artesian Wells, present a striking contrast as honorable to our country as it is characteristic of her sons."

Excellent drinking water has been obtained on the premises of a number of our citizens at the depth of sixty feet. At the Charleston Hotel, recently, a well was deepened, and a stratum penetrated at fifty-three feet, containing pure water, and it has since been ascertained that it can be procured at forty feet. The credit of having first made this discovery is given to our fellow citizen Francis S. Holmes, Esq., a gentleman whose devotion to geological pursuits, even amid the pressing cares of business, has earned for him a high reputation. Mr. Holmes's valuable collection has been greatly enriched and added to, by the specimens which he has been industriously classifying and arranging from the different strata through which this work has passed; and his published essays have attracted much attention. In this department his researches have been aided by those of Professor Hume of the State Military Academy, whose able writings on the subject have also appeared in our daily papers. Prof. H. gives Mr. Holmes the credit of having first called public attention to this grateful improvement upon the ordinary mode of procuring good well-water at a moderate depth.* He thus describes the "Sixty Feet Wells:"

* Professor H. accounts very satisfactorily for the phenomena which puzzled the brains of so many of us here, who were not among "the knowing ones," during the hail-storm of May, 1848. It was abundantly evident that the cisterns, one and all, had been contaminated by something or other connected with the falling of the hail-stones, as the water was by no means drinkable for many weeks after the storm. The public mind had partially settled down into the conviction, that the waters of every cistern in town had simultaneously risen,

"The depth at which the inferior bed of sand is found being about sixty feet, the wells have naturally been called the 'Sixty Feet Wells,' in contradistinction to the superficial and the legitimate overflowing Artesian. This distinction is proper, not only in allusion to the depth of each, but in consideration of the source of each. The superficial are supplied with rain water which falls within the city, sinks into the earth, is arrested by the mud bed, and enters the various excavations in the earth made for its reception. The sixty feet wells have their source from rain falling beyond the outcrop of the mud stratum, probably eight or ten miles from the city, free from its impurities, and, consequently, purer, but liable to the contamination of the mud bed above, the peat bed below, and the marl bed in its immediate vicinity intermixing with both. The Artesian Well water is presumed to come from a distance of one hundred miles, from sources free from soluble matter, and conveyed to us through a sandy stratum bounded by the granite below and the silicious clay and sand-stone above, hence, delivered from all animal, vegetable or mineral contamination, and probably purer than the rain which fell upon the sandy plains of Lexington."

Public confidence has been sustained by the published opinions of these gentlemen, who are all sanguine as to the ultimate success of the project. The results have so far minutely corresponded with the calculations made as to the various progressive steps through which the work must pass. Nine successive strata have been perforated, until the silicious clay, which varies usually from two to thirty feet in thickness, has been reached, which forms the boundary between what has been already passed over, and the water bearing beds of sand and clays. The Great Well at Paris, was accomplished after the most trying embarrassments and discouragements. Geologists had originally assigned, as the greatest possible depth, twelve hundred feet. Council became dissatisfied, and were about giving it up as a hopeless case. One of their learned men arose, made a speech and induced its further prosecution. After boring sixteen and seventeen hundred feet without success, they abandoned it altogether. M. Mulot, the engineer, then undertook it at his own risk, and, at seventeen hundred and ninety-six feet, reached the summit of his hopes. This shows what perseverance can accomplish, and it is to be hoped that our Council will derive encouragement from

with the heavy rains, and drowned in their unusual depths a regiment of those diminutive quadrupeds which are apt to infest such places of resort. It is refreshing to find that this unwelcome conclusion is not at all *rat*-ified by chemical analysis. He says: "To have water purer than rain may appear to some of my readers as hyperbolical; but it is well ascertained that rain water is never absolutely pure, and most of the cistern owners in the city will remember the disastrous consequences of the hail-storm of the last year. Had that hail been pure, there would have been no necessity to empty and clean out the cisterns, to get rid of a water that was not only disagreeable to the taste, but shockingly offensive to the smell. A portion that I obtained from a servant, who carefully preserved a bottle of it as 'a sovereign remedy for sore eyes,' underwent a regular fermentation, developing those albumenous clouds, like the 'mother of vinegar,' and presented sufficient characters to prove it to be of animal origin. I attributed it to the entanglement of a swarm of insects in the freezing drops, their subsequent death, the fermentative fate which attends all dead animal matter, and the resulting inconvenience to the living. Had this hail fallen upon the plains of Lexington, it is certain that the sand would have retained the insects, while the otherwise pure water would have passed into the sand."

it, or else, like the learned Assembly of Paris, yield up the glory of its final accomplishment at the last moment to the engineer who, in this case also, is as fresh and undaunted now as at the commencement of his labors.

2. GAS WORKS.

The experiment of lighting the city with gas, develops satisfactory results. A company has been formed with sufficient capital for extensive operations. The same prejudices which at first retarded the progress of this enterprise in New York, Philadelphia and Baltimore, threatened, for a time, to produce the same effects here. Danger from explosion, risk of fire and offensive odors arising from factories, were the chief difficulties to be apprehended. Strict investigation into the causes of such accidents where they did occur, in other places, confirmed the views of the advocates of the enterprise. It was ascertained that the risk of accident or danger is but small, if the ordinary care and attention necessary in every large establishment be paid by the officers and workmen employed on the premises. Recent improvements in the manner of purifying the gas have remedied its offensiveness. No smell is now perceptible in the houses where it is consumed, unless from an occasional defect in the pipe which may cause a portion of the gas to escape. On the score of *economy*, the reports which have been published are all decidedly in favor of the gas over the ordinary modes of lighting. As yet, the number of private consumers in this city is not large. Most of the public buildings and all the principal streets, are already lighted with it.

The works on Church street were constructed under the superintendence of Messrs. Batton and Dungan, Contractors of Philadelphia. The cost, including laying of pipes, &c., will, when completed, be about two hundred thousand dollars. There are twenty-one retorts (of cast iron) and seven benches, or ovens, in which the retorts are placed. The gasometer will hold ninety thousand feet of gas, supplying twenty-five miles of pipe: another is in progress, of the same size. Besides churches and public buildings, there are over six hundred private consumers. About twenty-five thousand feet of gas are manufactured at these works per twenty-four hours. The consumption of coal during the same time is about three tons.

Consumers are supplied after the manner first adopted in New York and Boston. The quantity consumed by each individual is accurately measured and charged accordingly. This is effected by an instrument called a *meter*, which is attached to the service pipe at the entrance of each house, the following description of which is taken from one of the Reports in the volume now lying before me.* "This instrument is of a cylindrical form, revolving in a case air tight. The inner cylinder, which is composed of four apartments of given dimensions, revolves in water, immersed to a point a little above the axis. Each compartment has two openings, one for the admission and the other for the emission of the gas. As the cylinder revolves by the pressure of the gas, the compartment rising out of the water fills, which displaces the water it contained, while the other, descending, refills with water, the gas passing

* Reports of the Trustees of the Philadelphia Gas Works.

upward through a discharge of pipe to the burners. The axle of the revolving cylinder operates upon gearing, to which clock hands are affixed, indicating on the dial the number of revolutions made, and, consequently (the capacity of the cylinder being previously ascertained), the quantity of gas consumed is measured. The adoption of this system tends to the advantage of all parties. The consumer pays for no more than he uses, and, consequently, burns with as much economy as is consistent with his interest, and the producer not subjected to loss from carelessness or malice. The key of this meter is kept in possession of the manufacturer."

The following compose the officers of the Company:
Joshua Lazarus—President.
John R. Heriot—Secretary and Treasurer, and Superintendent of the Works.
Directors—Hon. T. L. Hutchinson, Henry Gourdin, Robert Martin, Geo. S. Cameron, Otis Mills, H. W. Conner, M. C. Mordecai.

3. MAGNETIC TELEGRAPH.

We have our branch of the Great Magnetic Line between Washington and New Orleans. Though the interruptions to steady communication have been frequent and vexatious, the public interest has been sufficiently benefited to entitle those interested in its establishment to the distinction of having contributed to one of the greatest enterprises of the age. The three daily papers constitute the principal support of the undertaking. The promptness with which the readers of these journals are now supplied with the latest intelligence is creditable to their public spirit and should be equally satisfactory to their patrons. But the age is progressive, and the march of improvement is always onward. It is not surprising, therefore, that, having succeeded in obtaining news by *lightning*, people should become dissatisfied and long to get it by some *still quicker* means. The "Telegraph" in this city was the wonder of a day; but habit has reconciled us to its marvelous workings, and nobody thinks it wonderful now-a-days.

4. MECHANICS' INSTITUTE.

As a means of encouraging the industry of our young mechanics and those engaged in the industrial occupations generally, an association has been formed within a few months past, under this title. It has regular and life members, the former paying, annually, a contribution of two dollars, and the latter, on initiation, twenty-five dollars. The annual meeting of the Institute is to be held on the second Wednesday in May of each year. The Annual Fair will take place in this city on Wednesday, 17th of October, next. Specimens of art, ingenuity, mechanical skill and industry of every description, are in course of preparation for this occasion, for which premiums are to be awarded. This is, I believe, the first effort made in the southern States to advance the mechanic arts, by means of an annual fair on the principle of those which have proved so beneficial to northern mechanics.* The Board of Managers have published a Circular, earnestly soliciting the coöperation of all who feel an interest in the prosperity of the South; and appealing to mechanics, manufacturers, and all engaged in occupations of skill and industry, of

* We have had one several years in Louisiana—now very much in decay, but to be soon revived.—Ed.

whatever description, to send some specimens to this exhibition—and they express the hope that every district in this State, and of our sister States, will be represented at the Fair.

The following are the Premiums to be awarded:

For the best Specimen a Silver Medal, and for the next best a Diploma.
For New Inventions a Gold Medal, at the discretion of the Committee.
Articles of all kinds not named below will be received, and Premiums awarded for the same.

Architectural Drawing.
Design for Diploma for the So. Ca. Institute.
Painting in Oil.
" in Water Colors.
Miniature Painting.
Pen Drawing.
Pencil "
Crayon "
Sculpture.
Penmanship.
Best mode of Constructing Wharves.
Best Press for Packing Cotton.
Best Rice Thrashing Machine.
Best Cotton Gin.
" Refrigerator.
" Plow.
" Churn.
" Washing Machine.
Stone Masons' Work.
Carpenter's Work, by hand.
" " by machinery.
Carving in Wood.
Model of a Ship,
Specimens of—
Boat Builders' Work,
Ship Joiners' Work,
Pump and Block Making,
Mill-Wrights' Work,
Coopers' Work.
Four Wheel Carriage.
Buggy.
Gig or Sulky.
Cart or Dray.
Steam Engine.
Fire Engine.
Turning in Brass, Iron or Wood.
Blacksmiths' Work.
Casting in Iron or Brass.
Iron Railing Fence or Gate Work.
Brass or Copper Work.
Locksmiths' "
Bell Hanging "
Gunsmiths' "
Instrument Makers' Work.
Lamp " "
Jewelers' "
Silversmiths' "
Silver Plating.
Die Sinking.
Egraving on Steel, Copper or Wood.
Lithography.
Mechanical Dentistry.
Clock and Watch Making.
Cutlery.
Ornamental House Painting.
Ornamental Sign "
Cabinet Work.
Fancy Printing.
Book "
Ruled and Bound Ledger.
Fancy Binding.
Paper.
Side of Sole Leather.
Side of Harness "
Calf Skin, dressed for Boots.
Carriage Harness.
Buggy or Sulky Harness.
Cart or Dray "
Riding Saddle.
Beaver or Silk Hat.
Cloth Cap.
Military or Fireman's Cap.
Pair of Boots.
" of Shoes.
" of Ladies' Gaiters.
" of " Slippers.
Tailoring.
Umbrella or Parasol.
Hair Dressers' Work.
Gilding,
Stucco Work.
Modeling in Plaster.
Tin Work.
Plumbing.
Basket or Wicker Work.
Wooden Ware.
Dyeing in Wool, Silk or Cotton.
Upholsters' Work.
Mantua Making.
Millinery.
Shirt Making.
Quilt.
Embroidery in Gold or Silver.
Embroidery in Silk or Worsted.
Artificial Flowers.
Ornamental Hair Work.
Raw Silk, not less than ½ lb.
Manufactured Silk.
Weaving, Hand Loom.
" Power "
Specimen of Cotton Yarn.
Pair of Knitted Stockings, Socks or Gloves.
Coach Lace.
Gimp, Fringe, and Ornamental Weaving.
Confectionery.

Refined Loaf Sugar.	Turpentine, manufactured.
Pottery.	Soap.
Glass.	Tallow, Sperm, or Wax Candles.
Manufactured Iron.	Soda Water.
Cut Nails.	Cake Making.
Wrought Nails.	Starch.
Gray Bricks.	Flour.
Press "	Butter for winter use, not less than 10 lbs.
Fire "	Cheese.

This useful society has been organized chiefly through the active efforts of Wm. Gregg, Esq., the President, who is the moving spring of the manufacturing interest in our State, and a practical man—in every sense of the word. Mr. Gregg is the founder and proprietor of the Graniteville Factory in this State, and is more or less interested in several others. The success of his efforts has led to the establishment of the Hampstead Factory in the immediate neighborhood of this city, and others which I shall have occasion to notice hereafter.

ART. XI.—COTTON MANUFACTURES OF THE UNITED STATES.

HISTORICAL SKETCH OF THE RISE AND PROGRESS OF THE COTTON MANUFACTORIES OF THE UNITED STATES.

[We intend publishing a regular series upon this head and commence with the leading chapters from the work of James Montgomery, a practical manufacturer, issued from the British press and not republished yet in this country. As cotton manufactures are more extensively introduced at the South and West, it becomes necessary we should have the most minute knowledge in regard to them. The work before us is entitled, "A Practical Detail of the Cotton Manuture of the United States of America and the state of the Cotton Manufacture in that country contrasted and compared with that of Great Britain, and comparative estimates of the cost of manufacturing in both countries," etc.—Ed.]

As early as the year 1787, a society was formed in Philadelphia, under the name of the "Pennsylvania Society for the Encouragement of Manufactures and the Useful Arts," which made some progress in the manufacturing of various kinds of goods, such as jeans, corduroys, fustians, plain and flowered cottons, flax linens, tow linens, &c. But the machinery employed in this manufacture seems to have been of the very rudest kind. A short time before the formation of this society, an attempt to spin cotton yarn by machinery had been made at Bridgewater and Beverly, in the State of Massachusetts. Two mechanics from Scotland, Alexander and Robert Barr, brothers, were employed by a Mr. Orr, at East Bridgewater, to make carding, spinning, and roving machines, which they completed; and on the 16th of November, 1786, the general court of Massachusetts made them a grant of £200, lawful money, for their encouragement, and afterward added to the bounty, by giving them six tickets in the State land lottery, in which there were no blanks.

In March 1787, Thomas Somers, an English midshipman, constructed a machine, or model, under the direction of Mr. Orr; and, by a resolution of the General Court, £20 were placed in the hands of the latter, to encourage him in the enterprise.

The above remained in the possession of Mr. Orr for the inspection

of all disposed to see them, and he was requested by the general court, to exhibit and give all information or explanation regarding them. It is believed that the above were the first machines made in the United States for the manufacture of cotton.

The Beverly Company commenced operations in 1787, and are supposed to be the first Company that made any progress in the manufacture of cotton goods (that at Bridgewater had been on a very limited scale); yet the difficulties under which they labored—the extraordinary loss of materials in the instruction of their servants and workmen—the high prices of machines unknown to their mechanics, and both intricate and difficult in their construction, together with other incidents which usually attend a new business—were such that the Company were put to the necessity of applying to the State legislature for assistance, to save them from being compelled to abandon the enterprise altogether.

In their petition to the Senate and House of Representatives of Massachusetts, presented June 2d, 1790, only three years after they had commenced operations, they state: "That their expenditure had already amounted to nearly £4000, whilst the value of their remaining stock was not equal to £2000, and a further very considerable advance was absolutely necessary, to obtain that degree of perfection in the manufacture, which alone could ensure success."

Accordingly a grant of £1000 was presented to them, to be appropriated in such a way as would most effectually promote the manufacturing of cotton piece goods in the Commonwealth.

The petition above referred to, and other collateral facts, sufficiently prove that cotton spinning in this country, further than the hand card and one thread wheel, was carried through its first struggles by the Beverly Company in Massachusetts. And from this State the manufacture was carried to Rhode Island—though it must be acknowledged that both States were indebted to foreign emigrants for instruction and assistance in spinning and weaving, as well as in preparing the cotton.

Cotton spinning commenced in Rhode Island in 1788, in which year Daniel Anthony, Andrew Dexter, and Lewis Peck, all of Providence, entered into an agreement to make what was then called "Home Spun Cloth." The idea at first was to make jeans of linen warp spun by hand; but hearing that Mr. Orr of Bridgewater, and the Beverly Company, had imported some models or draughts of machinery from England, they sent thither and obtained drawings of them, according to which they constructed machinery of their own. The first they made was a carding machine, which was something similar to those now used for carding wool, the cotton being taken off the machine in rolls, and afterward roped by hand. The next was a spinning frame, something similar to the water frame, or rather the common jenny, but a very imperfect machine. It consisted of eight heads of four spindles each, being thirty-two spindles in all, and was wrought by means of a crank turned by the hand; this, after being tried for some time in Providence, was taken to Pawtucket and attached to a wheel propelled by water: the work of turning the machine was too laborious to be done by the hand, and the machine itself was too imperfect to be turned by water. Soon after, these machines were sold to Moses Brown, of Providence; but as all the carding and roving was done by hand, it was very imper-

fect, and but very little could be done in this way. Such were the rude machines used for spinning cotton previous to 1790; and the wonder is, not that the manufacturers failed in their undertakings, but rather that they were able to persevere. And we can now perceive that from these small beginnings, the present brightened propects received their foundation.

Previous to 1790, the common jenny and stock card had been in operation in various parts of the United States: and mixed goods of linen and cotton were woven, principally by Scotch and Irish weavers. Mr. Moses Brown, of Providence, had several jennies employed in 1789, and some weavers at work on linen warps. The jennies were used for making weft, and operated by hand in the cellars of dwelling houses. During 1790, Almy and Brown, of Providence, manufactured 326 pieces, containing 7823 yards, of various kinds of goods. There were also several other companies and individuals in different parts of the Union, who manufactured goods from linen warps and cotton weft. But, notwithstanding these most laudable and persevering efforts, every attempt failed of success, and they saw their hopes and prospects entirely prostrated. There was no deficiency of enterprise or exertion; no want of funds, or of men ready and willing to engage in the business; and no lack of patronage from the government, they having learned from the privations to which the country was subjected during the revolutionary war, the absolute necessity of promoting and encouraging domestic manufactures. The great cause of these failures is to be found in the fact, that during all these incipient struggles to establish the cotton manufacture in America, Great Britain had in full operation a series of superior machinery, which the manufacturers in this country had in vain endeavored to obtain.

It is to be remembered that Sir Richard Arkwright took his first patent for an entirely new method of spinning cotton yarn for warps in 1769, at which period his first mill was put in operation at Nottingham, in England; and his second mill, which was much larger, was erected at Cromford, Derbyshire, in 1771. After which his mode of spinning by water frames extended rapidly all over the kingdom; so that during the period when the most persevering exertions were being made, by various enterprising individuals, in different parts of the United States, to improve and perfect this most important manufacture, England was enjoying all the benefit of Arkwright's patents, by means of which cotton yarn was produced at much less expense, and of a superior quality to any that had ever been made by machinery before that period: and at the same time, the British government were using every means in their power to prevent models or drawings of these machines from being carried out of the country. Every effort to erect or import this machinery into the United States had hitherto proved abortive. Much interest had been excited in Philadelphia, New York, Rhode Island, and Massachusetts, but they found it impossible to compete with the superior machinery of England. The difficulties under which these incipient measures, toward the establishment of the business, were pursued, can hardly be conceived at the present day, even by a practical machinist or manufacturer. Besides the difficulties experienced in consequence of imperfect machinery, the period at which the business com-

menced in this country was also most unfavorable, as from the peculiar state of the manufacture in England at that time, and other causes, many in that country became bankrupts, their goods were sold at auction and shipped to the United States in large quantities, where they were again sold at reduced prices. Agents were also sent from England to the various manufacturing towns with goods, which were sold at low prices and long credit given, extending in some instances to eighteen months. It is likewise said, that British manufacturers formed themselves into societies, for the purpose of sending goods to this country, to be sold on commission, when they could not be disposed of to advantage at home.

Such was the state of the cotton manufacture in the United States in 1790. Every endeavor to introduce a proper system of spinning had been fruitless; and nothing but the introduction of the water frame spinning, which had superseded the jennies in England, could have laid a foundation for the successful prosecution of the business in America; and that was happily accomplished by one who was personally and practically acquainted with the business in all its details. The individual here referred to was Mr. Samuel Slater, who has justly been called the FATHER OF THE COTTON MANUFACTURE OF AMERICA.

Mr. Slater was born in the town of Belper, Derbyshire, England, on 9th June, 1768; and when about fourteen years of age, he was bound an apprentice at Milford, near Belper, to Jedediah Strutt, Esq. (the inventor of the Derby ribbed stocking frame, and for several years a partner with Sir Richard Arkwright in the cotton spinning business). At that time Mr. Strutt was erecting a large factory at Milford, where Slater continued to serve him for some time in the capacity of clerk, but during the last four or five years of his apprenticeship, his time was solely devoted to the factory, as general overseer, both as respected the making of the machinery and in the manufacturing department. After having completed the full term of his engagement, viz., six and a half years, he continued for some time longer with Mr. Strutt, for the purpose of superintending some new works that were then erecting: his design in doing so was to perfect his knowledge of the business in every department, as previous to this time his thoughts had been directed to America, by various rumors which had reached Derbyshire, of the anxiety of the governments of the different States in that country to introduce and encourage manufactures. A newspaper account of a liberal bounty of £100 having been granted to a person who succeeded in constructing a very imperfect carding machine for making rolls for jennies, and the knowledge that a society to promote manufactures had been authorized by the same legislature, finally determined him to try his fortune in the western hemisphere.

Mr. Slater had a perfect knowledge of the Arkwright mode of spinning; and from the confidential situation he occupied under Mr. Strutt, few enjoyed the same opportunities of acquiring a complete knowledge of all the minutiæ of the business; and being a person of retentive memory, close observation, and attentive to his engagements, it can easily be supposed that he must have been eminently qualified to introduce the cotton manufacture into America upon the same improved scale in which it was then in operation in England, especially as his mind had

been for some time directed to that object. For, having once determined to leave his native country, and give to the land of his adoption all the benefit of his practical knowledge and enlarged experience, there is every reason to suppose that he would embrace every opportunity of preparing himself for the great object he had in view. He knew that it was impossible to take any patterns or drawings along with him, as the government restrictions were very severe, and the custom-house officers scrupulously searched every passenger for America. It was therefore necessary that he should be fully qualified to superintend the building and arrangement of the mills, the construction of the machinery, and to direct the details of the manufacture, without the aid of a single individual; as the whole business was new to the people of this country, he could not expect any one to assist him except by his own directions. He, accordingly, stopped with Mr. Strutt until he considered himself qualified to engage in this important enterprise.

He embarked at London for New York, on the 13th of September, 1789, and landed at the latter on the 17th November, after a passage of sixty-six days. He was immediately after his arrival introduced to the New York Manufacturing Company; but finding that the state of their works did not suit his views, he left that place in the January following for Providence, Rhode Island, and there made arrangements with Messrs. Almy and Brown, to commence preparations for spinning cotton entirely upon his own plan: on the 18th of the same month, the venerable Moses Brown took him out to Pawtucket, where he commenced making the machinery, principally with his own hands; and on the 20th December, 1790, he started three cards, drawing, and roving, together with seventy-two spindles, entirely upon the Arkwright principle, being the first of the kind ever operated in this country. These were worked by the water wheel of an old fulling mill in a clothier's building, in which place they continued spinning about twenty months; at the expiration of which time, several thousand pounds of yarn were on hand, notwithstanding every exertion had been used to weave it up and sell it.

Early in 1793, Almy, Brown, and Slater, built a small mill in the village of Pawtucket—known to this day by the name of the Old Factory—in which they put in operation seventy-two spindles, with the necessary preparation, and to these they gradually and slowly added more and more as the prospects became more encouraging. After a short time, besides building another factory, they considerably enlarged the first.

Such then were the circumstances under which the Arkwright mode of spinning was introduced into this country, and such was the individual to whom belongs the entire merit of its introduction. Previous to 1790, the year in which Mr. Slater arrived at Providence, and which is justly denominated the era of the American cotton manufacture, there had been introduced at various places, particularly at New York, Providence, and Massachusetts, jennies, billies, and cards, for spinning cotton weft, to be woven into velverets, jeans, fustains, &c., with linen warp; but the history of those times shows the imperfection of the above named machines to have been such, as to preclude the manufacture of cotton cloth, or cotton yarn for warps—that they were defective

in their operations—deficient and expensive in their application—and that, under such difficulties and perplexities, it was entirely beyond the power of American manufacturers to compete with foreign goods introduced by British agents and American merchants, even though assisted by legislative aid, as was done at Beverly.

The citizens of Massachusetts, perplexed and involved in their incipient and imperfect attempts to manufacture cotton goods, and fully aware of the importance of introducing a better system of machinery, which they knew to be in successful operation in Great Britain, exerted themselves to obtain a model of the Arkwright patent spinning frame; but finding no person able to construct that series of machinery, and unable to obtain one from England, in consequence of the severe penalties imposed by the government on the exportation of machinery, they entirely failed in all their efforts. In this gloomy period of the American manufacture, Mr. Samuel Slater, as already stated, then in the employ of Strutt and Arkwright, having seen a premium offered by the Pennsylvania Society for a certain machine to spin cotton, was induced to leave the land of his fathers, where he had every prospect of succeeding in business, and embark for America. After his arrival, being informed that Moses Brown, of Providence, had made some attempts at water spinning, he repaired thither; but on seeing Mr. Brown's machinery, he pronounced it entirely worthless, and advised him to lay it aside. At this period, without the aid of a single individual skilled in making machinery, Mr. Slater constructed the whole series of spinning machines upon the Arkwright principle, and put them in operation so perfectly, as to supply all the establishments with cotton warp superior to linen; and in fourteeen months, Mr. Brown informed the Secretary of the Treasury, that machinery and mills could be erected in one year, to supply the whole United States with yarn, and thus render its importation unnecessary. Such is the amount of evidence regarding the introduction of the Arkwright machinery into the United States; and if the manufacturing establishments are in reality a blessing, as has been well observed, the name of Slater must ever be held in grateful remembrance by the American people.

Mr. Slater labored under every disadvantage, in the construction of his machinery; for although he had perfect confidence in his own remembrance of every part and pattern, and in his ability to perfect the work according to his agreement, yet he found it difficult to get mechanics who could make any thing like his models. But, perhaps, one of his greatest difficulties was to get card sheets made to suit his machines, as the card-makers in this country were entirely unacquainted with the operations of his machinery; indeed, the first carding machine he put in operation, had almost turned out an entire failure, in consequence of the defective manner in which the card teeth were set. But he persevered until he overcame this, as well as all his other difficulties; and his case furnishes one other bright example of the never-failing success which always attends patience and perseverance in the pursuit of any laudable object.

In 1798, Mr. Slater entered into partnership with Oziel Wilkinson, Timothy Green, and William Wilkinson; the two latter, as well as himself, having married daughters of Oziel Wilkinson. He built his

second mill on the East side of Pautucket river; the firm was Samuel Slater & Co., as he owned one-half of the stock. A short time afterward the hands in the mill revolted, or struck for higher wages; five or six of them went to Cumberland, and erected a small mill, owned by Elisha Waters and others: from these men and their connections, several factories were commenced in various parts of the country, and, in fact, most of the establishments erected from 1790 to 1809, were built by men who had, directly or indirectly, drawn the knowledge of the business from Pawtucket, the cradle of the American Cotton Manufacture. Some of his servants stole his patterns and models, and by that means his improvements were soon extended over the country; so that the business has, from that to the present time, been rapidly extending over the United States.

Mr. Slater's business was so prosperous, that about the year 1806, he invited his brother, Mr. John Slater, to come to this country, who, in all probability, brought with him a knowledge of all the most recent improvements made by the English spinners. The now flourishing village of Slatersville in Smithfield, was then projected, in which John Slater embarked as a partner, and in June of the same year, removed to Smithfield as superintendent of the concern. In the spring of 1807, the works were sufficiently advanced for spinning; and up to the present time, they have been under the management of that gentleman in an uninterrupted state of improvement. This fine estate was owned in equal shares by four partners, but now wholly belongs to John Slater and the heirs of his brother.

Cotton spinning, according to the preceding statements, commenced in the then obscure village of Pawtucket in 1790, at which time only seventy-two spindles were put in operation. Since that time, the rapid extension of the business in this country has been equaled only by that of Great Britain. According to the report of a Committee, appointed by Congress in 1832, to inquire into the progress of spinning and of the manufacture of cotton goods,

The number of mills in twelve States were		795
Spindles in do.		1,246,503
Looms in do.		33,506
Males employed in the manufacture,	18,539	
Females do. do.	38,927	
Total employed,		57,466

Previous to 1815, the whole weaving in the United States was done by hand looms, in many of which considerable improvements had been made, and great quantities of cloth were manufactured for home consumption. About 1814, a Mr. Gilmour landed in Boston from Glasgow, with patterns of the power loom and dressing machine, whom Mr. John Slater invited to Smithfield, and made known to him his wishes to construct these important machines; but not being able to prevail on the whole of the partners to engage in the business, Mr. Gilmour remained some time in Smithfield, employed as a mechanic, where he introduced the hydrostatic press, which proved to be of great advantage in pressing cloth, &c.

Judge Lyman, of Providence, had been endeavoring to construct a power loom, but failed in the attempt. On hearing of Mr. Gilmour, he,

with some other gentlemen, entered into a contract with him, to build a power loom and dressing machine from the patterns he had brought from Great Britain, which he did to the great satisfaction of his patrons, from whom he received a compensation of $1500. These machines were soon after introduced into Pawtucket, where David Wilkinson commenced making them for sale. Gilmour was a man of great mechanical genius, but neglected to turn his talents and opportunities to the advantage of his family, and, consequently, on his death, they were left in poor circumstances.

The hand looms were soon superceded by the others, the introduction of which greatly aided in extending the business in this country, and has enabled the American manufacturers to compete with Great Britain in South America, India, and some other foreign markets.

The preceding historical sketch details the introduction of the cotton manufacture into the United States, and the names of the several gentlemen through whose enterprising exertions it was first established. But in order to know its success, or the extent to which it has arrived, it is necessary to give some account of the various manufacturing districts. As the cotton factories of America, however, are widely scattered over a great extent of country, it is impossible here to take notice of them all. Some observations on a few of the principal districts is all that will be attempted.

It has already been stated in a former part of this work, that Massachusetts is the principal manufacturing State in this country. An act was past by the Senate and House of Representatives of that State, in 1837, for the purpose of obtaining "Statistical information in relation to certain branches of industry within the Commonwealth." The following table is copied from the report of the Secretary of the Commonwealth, which he prepared from the returns of the assessors in the various towns and cities in the State:

STATEMENT of the Cotton Manufactures in twelve of the States, in 1831.

States.	Capital.	Number of spindles.	Yards of cloth produced yearly.	Pounds of cloth produced yearly.	Pounds of cotton consumed yearly.
Maine,	$765,000	6,500	1,750,000	525,000	588,500
New Hampshire,	5,300,000	113,776	29,060,500	7,255,060	7,845,000
Vermont,	295,500	12,392	2,[illegible],400	574,500	760,000
Massachusetts,	12,891,000	339,777	79[illegible],000	21,301,062	24,871,981
Rhode Island,	6,262,340	235,753	37[illegible],681	9,271,481	10,414,578
Connecticut,	2,825,000	115,528	20,055,500	5,612,000	6,777,209
New York,	3,669,500	157,316	21,010,920	5,297,713	7,661,670
New Jersey,	2,027,644	62,979	5,133,776	1,877,418	5,832,204
Pennsylvania,	3,758,500	120,810	21,332,467	4,207,192	7,111,174
Delaware,	384,500	24,806	5,203,746	1,201,500	1,435,000
Maryland,	2,144,000	47,222	7,649,000	2,224,000	3,008,000
Virginia,	290,000	9,844	675,000	168,000	1,152,000
Total,	40,612,984	1,246,703	230,461,990	59,514,926	77,457,316

The preceding table shows the extent of the cotton manufacture of the United States in 1831; since that time there has been a considerable increase. The amount of capital invested in manufactures in the State of Massachusetts was then 12,891,090 dollars; in 1836 it had increased

to 14,369,719 dollars, being nearly twelve per cent. in the space of only five years; but, allowing the ratio of increase since 1831 to be ten per cent. all over the Union, the amount of capital now invested in the cotton manufacture cannot be less than forty-five millions of dollars, equal to £9,375,000 sterling, being about a fourth part of the capital invested in the cotton manufacture of Great Britain.*

The following table contains the number of mills, rate of weekly wages, and the number of hands employed in the factories in 1831.

States.	Mills.	Looms.	Males employ'd	Average wages of males weekly.	Females employ'd	Average wages of females weekly.	Children under 12 employ'd	Average wages of children.
Maine,.....	8	91	84	$5 50	205	$2 33		
New Hampshire,	40	3,530	875	6 25	4,090	2 60	60	$2 00
Vermont,.....	17	352	102	5 00	363	1 84	19	1 40
Massachusetts,..	256	8,981	2,665	7 00	10,678	2 25		
Rhode Island,..	116	5,773	1,731	4 25	3,297	2 20	3,472	1 50
Connecticut,....	94	2,609	1,399	4 50	2,477	2 20	439	1 50
New York,.....	112	3,653	1,374	6 00	3,652	1 90	484	1 40
New Jersey,....	51	815	2,151	6 00	3,070	1 90	217	1 40
Pennsylvania,..	67	6,301	6,545	6 00	8,351	2 00		
Delaware,.....	10	235	697	5 00	676	2 00		
Maryland,.....	23	1,002	824	3 87	1,793	1 91		
Virginia,.....	7	91	143	2 73	275	1 58		
Total,.....	801	33,433	18,590		38,927		4,691	

ART. XII.—DAYS OF GRACE ON SIGHT BILLS OF EXCHANGE.

It is little more than a year since it began to be mooted, in this city, whether bills at sight are due on presentation, or on the last day of grace. The first case in which the question came up, was decided in the Fourth District Court of New Orleans, in March, 1848, upon a bill drawn here on Philadelphia. The point was presented, but not argued, Judge Strawbridge being satisfied without argument, that grace was to be allowed, both by the law of Pennsylvania and of Louisiana. No attempt was made to prove the custom of Philadelphia; and the case went off, in favor of the defendants, on another point. Afterward, suits were brought in the Third District Court, on bills drawn here on New York, in which the question was fully argued; and the opinion of the court was, that grace was to be allowed. In October last, the Court of Common Pleas, in the city of New York, held the same opinion, in a suit on a bill drawn here on that city; and the New York banks gave notice, through the newspapers, that they would not receive sight bills for collection unless they were drawn expressly without grace. The writer of this article has been informed that a proposition was subsequently made in the legislature of New York, to provide for the allowance of grace on bills at sight; but that it was opposed and failed, on the ground that it was inexpedient to attempt to give legislative sanc-

* This estimate was made several years ago. We shall hereafter give the correct estimate to date.—Ed.

tion to that which was already the established law. Nevertheless, doubts are still entertained on this subject; and it may not be amiss to inquire what the law really is, and what steps should be taken to charge the drawers and indorsers.

No good reason can be shown why a bill drawn at sight should be due immediately on presentation, while one drawn payable one day after sight is entitled to three days of grace. Grace, as the word imports, was originally granted as a mere favor, by the holder to the drawee, or acceptor, to enable him to procure the funds necessary to pay the bill, and was a matter of great convenience at the time when all payments were made in gold or silver. But this allowance has long since ceased to be merely voluntary on the part of the holder, and the drawee, or acceptor, is as much entitled to it, as the other parties are to notice of protest. It may be considered as almost commensurate with the use of bills of exchange, and constitutes a part of the customary or common law of all commercial countries, except those in which the French code of commerce, of 1807, has been adopted, by which it was abolished.

"The allowance of days of grace is a usage which pervades the whole commercial world. It is now universally understood to enter into every bill or note of a mercantile character, and to form so completely a part of the contract, that the bill does not become due, in fact, or in law, on the day mentioned on its face, but on the last day of grace. A demand of payment previous to that day will not authorize a protest, or charge the drawers of the bill."—1 *Peters*, 30, 31.

It might well be argued before a legal tribunal, on the high authority of Chief Justice Marshall, who delivered the opinion from which the foregoing extract is made, that it is only necessary, in order to determine whether grace is to be allowed on a bill or note, to ascertain if it be of a mercantile character; that is, if it be negotiable, and intended for circulation. For, although the court was not called upon to decide in that case whether sight bills are entitled to grace, yet it is well known that Judge Marshall's opinions were most carefully prepared, and that he announced no legal propositions from the bench which are not supported by reason and authority. The High Court of Errors and Appeals, of Mississippi, made negotiability the test of the question, in the case of Skinner *vs.* Collier, 4 Howard, 396, and decided that grace was to be allowed on a promissory note under seal, because by the law of that State such instruments are made negotiable. A reference to the statutes of several of the States confirms this view. In Ohio, by the act of 1839, it is declared, that all bonds, notes, or bills, made negotiable by the law of that State, that is, such as are for a sum certain, and payable to bearer, or to order, shall be entitled to three days grace in the time of payment. In Massachusetts, by the act of 1824, grace is allowed on bills payable at sight, and on all bills except those which are payable on demand. The legislature of North Carolina, as early as 1786, passed an act providing that bills and notes made payable on demand, should be deemed and held to be due on demand, leaving it necessarily to be inferred that all other bills and notes were to become due at some other time than that mentioned on their face, that is, on the last day of grace. In Louisiana, we have the act of 1805, passed by the legislative coun-

cil under the territorial government, the third section of which is still in force, and is as follows:

"That upon ALL BILLS OF EXCHANGE AND PROMISSORY NOTES MADE NEGOTIABLE by law, or by usages and customs of merchants in this territory, instead of ten days of grace which have been heretofore allowed, three days only shall be hereafter allowed, any law, custom or usage hitherto existing to the contrary notwithstanding;" (*Orleans Laws, p.* 98) and the act of 1838, the fifth section of which establishes certain days of public rest, and provides: "That ALL PROMISSORY NOTES AND BILLS OF EXCHANGE shall be due and payable on the second day of grace, when the third is a day of public rest, and on the first day of grace, when both the second and third are days of public rest."—*Acts of* 1838, *p.* 44.

It cannot be presumed that the use of language so general and comprehensive in its terms, by so many different persons, at periods so wide apart, was the result of mere accident; and it is not only a reasonable, but also a necessary conclusion, that those by whom it was used intended that the allowance of grace should apply to all negotiable mercantile paper, without distinction.

The object of this allowance is now, as it was originally, the convenience of the drawee or acceptor; and no question can arise as to his right to claim it on a bill payable after date, or after sight. Now where a bill is drawn at so many days after date, or after sight, the drawee is duly advised of the drawing, or the bill is presented for acceptance, so that he cannot fail to know the time of its maturity, and might, generally, as easily make his arrangements to pay it on the day mentioned on its face, as three days after. His convenience, does not absolutely require this indulgence on such bills, except where they are drawn at short sight, or short date. But bills at sight are frequently presented before a letter of advice would reach the drawee, if one were written; and the first notice he has of the drawing is, ordinarily, the presentation for payment. It may be urged that bills at sight are most generally drawn against funds, and that the drawee should, therefore, be prepared to pay them at any moment: whereas, bills after date, or after sight, are frequently drawn upon the mere expectation that funds will be in the hands of the drawee at maturity to meet them; and that the allowance of grace on such a bill may often enable the drawer to provide for it, and save the drawee the necessity of advancing money, where he intended only to give credit. If this objection, which would apply as well to most bills at short date, or short sight, as to those at sight, is entitled to any consideration, it may be met by the fact that merchants keep an interest account with those who leave funds in their hands, and must of necessity use the money upon which they pay interest; and it is not always convenient, or even possible, to call in outstanding means at a day's warning. The time of the presentment of a bill at sight is altogether uncertain. If it is thrown into circulation the drawee cannot know whether he must be prepared to meet it in three weeks, or in three months, although he may be advised of the drawing; and it might be very inconvenient for him to hold himself in readiness to pay it immediately on presentation. If such bills were in use when the allowance of grace was a mere favor dependent on the will of the holder, surely the drawee might have asked it with much greater propriety upon a bill, of the existence of which he was totally ignorant, until the

moment of its presentation for payment, than upon one, of the drawing and maturity of which he was fully apprised, long before it became due, either by the letter of advice, or by his own acceptance.

Writers on Bills of Exchange, such as Chitty, Story, and Bayley, treat the question as settled; and Chancellor Kent, in his Commentaries, says, "the three days of grace apply equally to bills payable at sight, or at a certain time." In a note he says, that it may be considered as a point not entirely settled; and he cites Beawes and Kyd in support of a different rule, although he admits the weight of authority seems greatly to preponderate in favor of the rule as laid down in the text. It may be remarked that the decision of no court is referred to as authorizing or sustaining the rule laid down by Beawes and Kyd, and that it must rest on their simple assertion as a matter of opinion. The following extract from Chitty is conclusive as to the preponderance of authority:

"Beawes, in his Lex Mercatoria, says, that bills made payable here at sight, have no days of grace allowed, although it would be otherwise in the case of a bill made payable one day after sight. Kyd in his Treatise expresses the same opinion. But it appears now to be considered as settled, that days of grace are to be allowed. In Dehers vs. Harriot (1 Show. 163), it was taken for granted that days of grace were allowable on a bill payable at sight. The same doctrine was entertained in Coleman vs. Sayer (Barnard, K. B. R. 303). And in another case, where the question was, whether a bill payable at sight was included under an exception in the stamp act in favor of bills payable on demand, the court held that it was not; and Buller, J., mentions a case before Willes, C. J., in London, in which a jury of merchants were of opinion that the usual days of grace were to be allowed on bills payable at sight. And in Forbes on bills (p. 142), the same practice is said to prevail. And Mr. Selwyn, in his Nisi Prius (p. 339, 4th edition), observes, that the weight of authority is in favor of such allowance. And they were allowed at Amsterdam."

The opinion has prevailed pretty generally, even among those who concede that sight bills are strictly entitled to grace, that custom, or the usage of merchants, has modified the law in this respect. In those States in which there is no legislation on the subject, the allowance of grace depends upon the customary, or common or unwritten law; not resulting from the usage of merchants in any one city, or in any half a dozen cities, but from the custom of the commercial world for several centuries past. In those States which have legislated on the subject, the allowance is extended to negotiable bills and notes generally, and no distinction is made between those which are payable at sight, and those which are payable after sight, or on a future day certain. A custom of the banks in the District of Columbia to allow the whole of the third day of grace, and to demand payment on the fourth day, has existed uniformerly since 1793: such a custom is not in derogation of the commercial law, but is merely explanatory, showing at what time the grace expires; and it has been fully sanctioned by the Supreme Court of the United States. In Woodruff *vs.* the Merchants' Bank of the City of New York, 25 Wendell, 673, a bill of sixty days after date, drawn on and accepted by the cashier of a bank, had been protested for non-

payment, without the allowance of grace. It was proven by the president of a bank, and four cashiers, and by a distinguished broker of the city of New York, that it was the usage of merchants in that city to treat such bills as bank checks, and not to allow grace upon them. But the Supreme Court held that the effect of the usage would be to overturn the whole law on the subject of bills of exchange in the city of New York; and that it could not be allowed to control the settled and established law of the State. These examples may serve to show to what extent usages will be recognized by courts of justice. It is only where the law is silent that evidence of custom or usage can be received; and where the law is established, whether it be statutory or written law, or customary or unwritten law, usages must conform to it under pain of absolute nullity. The customary law speaks as plainly in the decisions of judicial tribunals, and in the elementary writers, as the written law does in the code or the statute book. The law allowing grace on negotiable bills and notes, is derived from universal custom, and is as well established where the statutory law is silent, as where it has been made the subject of express legislation. Can bills and notes of a particular class, having the requisite of negotiability, be excluded from the operation of this law by any local usage?

No decision of any court has been found in which it is held that sight bills are to be placed upon a different footing from other bills with respect to grace, while principle and authority both require that they should be as highly favored in this particular, as any other class of commercial paper. If a contrary usage exists, or has existed, it only confirms the opinion of Judge Story (2 Sumner, 377), "that usages among merchants should be very sparingly adopted as rules of law by courts of justice; as they are often founded in mere mistake, and still more often in the want of comprehensive views of the full bearing of principles."

But admitting, for the present, that custom may change the law, let us see if any custom exists disallowing grace on sight bills. In several cases which were recently decided in the Fourth District Court of New Orleans, on bills drawn on New York, the plaintiffs attempted to prove a custom in this city and in New York, to have sight bills paid on presentation, or protested for non-payment, without the allowance of grace. The substance of the testimony of some of the principal bankers and dealers in exchange in this city is, that, until about a year past, grace was not claimed on sight bills payable here, and that the notaries protested them for non-payment, if not paid on presentation; but that latterly the grace had been sometimes claimed and allowed. A gentleman who was a banker and an extensive dealer in exchange, in the city of New York, from 1832 to 1839, says that during that period the grace was frequently claimed and allowed by him. His rule was to protest for non-acceptance and non-payment both; and other witnesses testified that the same practice was observed by them. Several other witnesses, bankers, brokers and notaries, had never allowed the grace, and had not known it demanded. Although these cases were decided in favor of the plaintiffs, they determine nothing as to the question of grace; for there was proof of a promise to pay by the drawer, after notice of the dishonor, and the court very properly held that he was bound by the

notice, if the protest was regular, and by his subsequent promise, if it was irregular. So far as New York and New Orleans are concerned, the proof amounts simply to this: that the grace sometimes is and sometimes is not claimed, and is allowed by some and not by others. It is known that grace has been claimed on a bill at sight, and allowed, at Mobile, within the last ten or twelve years; and a strict inquiry would probably show the same want of uniformity in other cities. It will not be pretended that a practice which varies, or which has been interrupted, can be called a custom in the legal acceptation of the term, or that it can be adopted by the courts as a rule of law. Reason and the law require that usages which are to govern questions of right between parties, should be so certain, uniform and notorious, as to be known and understood by those who are to be affected by them.

It may, then, be safely asserted, that no custom exists, that no custom can be proven in reference to this matter, different from the general commercial law; and no such usage as can be respected or adopted by the courts. The question, therefore, must be determined purely on legal grounds; and it is not to be supposed that any respectable tribunal, in deciding it, would disregard the authority of Chitty, Story, Bayley and Kent, and the authorities cited by them in support of their opinion, more especially in Louisiana, where the language of the law precludes the idea of any distinction in the allowance of grace on negotiable paper.

But here it may be asked, why checks and bills payable on demand, should not be equally entitled to grace? As to checks, the obvious answer is, that they are generally drawn upon funds in the hands of a banker, placed with him to be drawn out at pleasure, and on which he pays no interest. They are used as a means of payment, are not intended for circulation, rarely ever do circulate, and, in fact, would be suspected if not cashed within a day or two of their date. They are generally treated as cash, and are not, properly speaking, bills of exchange. In reality, they amount to nothing more than a mandate from the drawer to his agent the drawee, saying, deliver to the bearer, or to order, so much money which you have in your possession belonging to me. Bills and notes payable expressly on demand, or in which no time of payment is mentioned, are commonly for small amounts, and their negotiability is restrained by the suspicion which would ordinarily attach to them if kept in circulation beyond a few days They are, therefore, principally confined to neighborhood or domestic purposes, and do not enter to any great extent into commercial transactions. So that the question is not of much consequence in practice. The universal custom is to treat them as due on presentation; and, whatever the reasons may be which gave rise to the distinction, it is as well settled by the authorities that they should be protested for non-payment immediately if dishonored, as it is that those which are prayable at sight are entitled to grace.

The Supreme Court of Louisiana, in the case of the Commercial Bank of Natchez *vs.* Perry (10 Rob. 63), recognized the doctrine laid down by Story and other elementary writers, that a bill at sight must be presented for acceptance in order to fix the time of payment: for sight is held to mean acceptance, and not the mere physical act of seeing the bill. The allowance of grace does not depend upon the acceptance

or non-acceptance of the bill; but if it is accepted, the acceptor may delay the payment until the last day of grace, and a protest for non-payment before that time would not charge the drawers or indorsers. If it is neither paid on presentation, nor accepted, it should be protested for non-acceptance. All difficulty might be avoided by having it protested both for non-acceptance and non-payment; for, if grace is to be allowed, the holder is entitled to the additional security of an acceptance, which, moreover, is necessary to determine the day from which the grace is to be reckoned, and the protest for non-acceptance would bind the parties: if grace is not to be allowed, the bill would be dishonored by the refusal of the drawee to pay it on presentation, and the protest for non-payment would be good.

This article has been extended, perhaps, beyond the patience of the reader; but the subject seemed to merit the investigation. Practically it may make no great difference whether a bill is to be paid absolutely at sight, or three days after; but it is important that the question should be settled. Uniformity in the practice of merchants, in all matters of general commercial interest, is greatly to be desired in a country like ours; and the rights and obligations of parties should not be left to depend upon the doubtful proof of uncertain and varying local usages, of which a large majority of those who are to be affected by them may be entirely ignorant.

AMERICAN CITIES.

1. CINCINNATI—HER POSITION, DUTY AND DESTINY.

[Governor Bebb, of Ohio, delivered before the Mercantile Library of Cincinnati, an address, from which we make some extracts. His subject is interesting, and he deals with it eloquently in parts. The governor, like some other eminent citizens of Ohio, is fond of seeing little that is great beyond the limits of his own State, and finds in Cincinnati the very expression of highest progress and highest destiny. Now we object not to this State and city pride, so it does justice to others. We are *American* enough to sympathize and rejoice in the fair and legimate progress of every section of our country. The *fair* race, however, should be open to all.

We do not hesitate to publish those parts of Governor Bebb's address, in which he passes so severely upon slavery and upon the influence of slave labor in retarding progress. It will do us no harm to be familiar with opinions, though they be easily refuted, especially when these opinions are held by men as distinguished as the Governor of Ohio. But to *refute* them does not belong to us now. Happily the refutation has come from the halls of the same *Mercantile Library of Cincinnati*, triumphantly, through the manly spirit and independence of Elwood Fisher, Esq., whose able lecture adorns the pages of the present number of our Review.—Ed.]

Has Cincinnati *raw materials* within her reach? She has iron, the substance of which, it has been truly said, the bones of the giant, civilization, are made, in profusion around her. The magnificent forests of Ohio, Kentucky and Indiana, almost fling the shadows of their foliage into her ship-yards. She has the plantations of the South for cotton, and the prairies of the West for wool, with the Mississippi and her hundred arms for her highways.

Has she *food?* She is situated just below the 40° north latitude, in the heart of the temperate zone, and in the center of the lower silurian, or blue limestone region of the West, the most fertile soil on earth, and the most genial to the growth of maize; hence, she has become the great provision market of the world; hence, the profusion of grains and grasses and fruits and vegetables in her markets; hence her exports last year, chiefly of food for man, amounted to fifty-five millions and three quarters of dollars, a sum equal to one-half the average export commerce of the whole Union.

Has she artizans, laborers, men to produce and to consume fabrics? Let her manufactories of iron, brass, tin and copper—of cotton, hemp and wool—of

leather, oils, soap and candles—her book trade and printing presses—her ship-yards, iron foundries and machine shops—her beef and pork packing, and, above all, her ten thousand handicraftsmen, tell. Let the value of the products of her mechanical industry, estimated by Charles Cist, Esq., certainly the best authority, at twenty-five millions of dollars per annum, answer.

Has she *motive power?* The Great Miami, with a volume of twenty-five thousand cubic feet of water per minute; Whitewater and the Little Miami, with each half that volume, as actually ascertained at different times of drought, by scientific engineers, all descend at the rate of from five to seven feet per mile, and all by means of canals and railroads, in effect, empty at this city. Dayton has long been known as an important manufacturing point. A hydraulic canal at Hamilton, of four and a half miles in length, gives a fall of twenty-nine feet, and a power equal to the propulsion of one hundred and sixty pairs of 4½ burr mill stones. Similar hydraulic works may be constructed at Middletown, Franklin, Miamisburg, Carrollton, and several other points on all these rivers, at which manufacturing cities and towns, such as Dayton and Hamilton, are springing up as directly tributary to this city as Lowell is to Boston. A consideration of still greater importance to Cincinnati, is the fact that she is situated almost midway between the two greatest coal fields on earth, with the best water communication now, and ere long with railroads, East, West and South, to each.

Is it not apparent that in manufacturing for this valley, Cincinnati and her tributary towns and cities have the advantage of Boston and Lowell, other things being equal, by so much as it costs less to transport a bale of cotton from Memphis to Cincinnati and Dayton, than to Boston and Lowell, by so much as it costs to transport the food from this place to Lowell, to feed the operatives; and by so much as it costs to bring the fabrics from Lowell to the West for consumption. The advantages of our position for the manufacture of iron, in all its great ramifications, is still more manifest, as the mines and coal fields are at our door, and as owing to the great weight of iron as compared with cotton, its transportation is more expensive. Other things, it is true, are not yet equal. New England has the advantage of concentrated capital and skill. But "westward the star of empire takes its way," and both skill and capital are not only finding their way along with it, but they are springing up around and amongst us.

But how is this valley to furnish trade enough and manufactures enough within itself, to make Cincinnati, one hundred years hence, a greater emporium than New York? I have already shown that the probable number of the inhabitants on the Atlantic slope at that time will be sixty millions, and the probable number in this valley, two hundred millions. The proposition, then, is reduced to the plain and easily solved question, whether two hundred millions of people will build up and sustain greater cities than sixty millions. Will it be said that the business of the West will be divided between Cincinnati, St. Louis, Pittsburgh and other cities? True, and will not the business of the Atlantic slope be divided, also, between Boston, New York, Philadelphia, Baltimore, Charleston, etc.? Is not this valley more compact and favorable to the concentration of its trade to one, or to a few points, than the Atlantic slope? What will that point or those points be? There will, no doubt, be several great cities in this valley. Pittsburgh, Cincinnati and St. Louis are now, and I think are likely to maintain, their position, in the front rank. Of these three, Pittsburgh is situated too near the east side of the valley to become the great central emporium. I believe that central point to be Cincinnati and not St. Louis, for several reasons, to one or two of which only, will I direct your attention to-night.

1. Cincinnati, although the younger city, has already nearly doubled St. Louis in population and wealth and productive industry. This is a great *fact* in the history of the two cities, standing boldly out in the foreground of the investigation. It carries with it a significancy that can neither be overlooked, mistaken, nor explained away.

2. But Cincinnati is to be the greatest city, principally because of the absence of slavery in Ohio and its presence in Missouri.

But even in this point of view, the comparative results of slave labor, in contrast with that of freemen upon national prosperity, is a most interesting and important subject for the consideration of the economist and statesman. And I would here furthermore remark, that the world never afforded a more favorable

opportunity for making the experiment, or rather for observing the effect of the experiment already made, than these States now present. We here see slave States side by side with free; peopled with the same race, acknowledging the same common origin, speaking the same common language, and united under the same constitution: with a soil more fertile, a climate more mild and congenial, affording products more in demand, and enjoying a geographical position, at least as convenienient for commerce and the arts. Under circumstances thus favorable to slavery, the experiment has been tried for more than a century. What is the result?

In population the free States have far outstripped the slave, and the rapid increase of population is the best index of national prosperity. There is no comparison between the cities, as a glance at Boston, New York, Philadelphia, Pittsburgh, Albany, Buffalo and Cincinnati, in comparison with Baltimore, Charleston, New Orleans, Louisville and St. Louis at once shows. And let it be remarked, that of the latter, Baltimore, St. Louis and Louisville, are but partially under the influence of slavery.

3. In this view of the *position* and *destiny* of Cincinnati, what is her *duty?*

It is, in a word, that she should enlarge her soul to the conception of that position and destiny. Ler her arise, "shake the dew-drops from her garments" and realize the object of her mission upon earth. Let her seize upon all the mighty instrumentalities which the inventive genius of the age has laid at her feet to make the gifts of God, so bountifully strown around her, minister to her coming greatness.

Why does she still pay tribute to the General Government for the boon of passing around the only rapids in her beautiful river? Is that little obstruction forever to *bar* her free navigation of the ten thousand miles of western rivers, which must all be made subservient to her manufactures and commerce? Has she a representative in Congress? Why is his voice not heard? Are the four thousand miles of coast bordering on the Atlantic and Gulf of Mexico forever to monopolize the care and munificence of Congress, and the twenty thousand miles of western river shores and the entire coast of our great Mediterranean lakes to be forever neglected? Is foreign commerce everything, and internal commerce, nine times its amount, nothing? And especially, in view of all this, is the voice of the greatest city in this inland valley not to be lifted up in tones that shall be heard and heeded?

It is the imperative duty of Cincinnati to take the lead in this great measure, and "give not sleep to her eyes nor slumber to her eyelids" until every obstacle to the free navigation of these great rivers, and of the lakes with which she is so intimately connected, shall have been removed. Let her representative in Congress speak! Let her orators and business men cry aloud. Let her omnipotent press put on its panoply. And, if need be, let the ballot-box lend its silent but potent aid, and ere long, rest assured, your rivers may be navigated in safety, and your tempest-tossed mariner on the lakes find a harbor from the fury of the storm!

Again, it is her duty to realize the spirit of the age, and to look it boldly in the face. The locomotive is on his fiery track, ministering to the high behests of civilization. Man, by the Telegraph, now *literally*

> "Stands on our Alps, stands on our Appenines,
> And with the thunder talks as friend to friend,
> And weaves his garland of the lightning's wing
> In sportive twist."

Oceans are no longer the only great highways of nations. The railroad has made the land as subservient to commerce as the water. Railroads are to be the *artificial rivers* of these latter days, and wo to that commercial city that suffers these rivers to be diverted from it. Cincinnati may, by these instrumentalities, if she will, command the Mississippi valley. Her present greatness is already attracting them, and it will require a good deal of neglect and repulsion from her to drive them off; *yet she may do it, and thus dash her golden hopes.*

A large portion of the immense agricultural products of the Wabash Valley are drained off toward New York and Boston, by the Wabash and Erie Canal. Sandusky is extending her arms toward Mansfield and Dayton. She must be met at the latter city.

I had no conception of the importance of a direct communication between

Cincinnati and Chicago, until I visited that young city twice last summer, and traversed much of Wisconsin and northern Illinois, as far west as the Mississippi river. It is a most fertile and delightful country, which, reached by a railroad, would do an immense business at this metropolis. Let, then, the road from Cincinnati to Hamilton be urged forward, and by the time we reach Indianapolis, one branch will tap the Wabash valley, at Terre Haute, on the way to St. Louis, and another, in my judgment, more necessary and important to this city, crossing the Wabash at La Fayette, will unite with Chicago, whence a road to Galena is already partially under contract, and will at an early day be completed.

A road is much needed branching off from the Little Miami Railroad at Todd's Fork, in the direction of the iron mines, coal fields, and salt wells of southeastern Ohio; and another to connect us directly with the heart of Kentucky and thence with the great system of railroads, now nearly completed, from Charleston and Savannah to Nashville.

If Cincinnati will but enter upon this work with half the energy and enlightened foresight exhibited by Boston, she will at once secure forever, her preponderance amongst the cities of this valley.

I cannot take leave of this branch of my subject without a word in relation to the intellectual as well as physical improvements of Cincinnati. And here, I am proud to say, she presents her noblest characteristic. Young as she is, her institutions of learning, her colleges, her observatory, and especially her common schools, vie even with those of Boston.

In the fine arts, she boasts her Powers, Clevenger, Baker and Jones—her Powell, Beard, Frankenstein, Kellogg, Whitridge and Soule, and a host of others on the road to fame, as the works of art now on exhibition in the gallery of the Western Art Union nobly exemplify.

Of the Young Men's Mercantile Library Association, which I have the honor this evening to represent, it is enough to say that it is but the legitimate emanation of the genius of Cincinnati.

A celebrated orator once emphatically exclaimed, "no matter what race of animals a country breeds, the great question is, *does it breed a noble race of men?*" No matter what its soil may be, the great question is, how far is it prolific of moral and intellectual power. This beautiful thought applies nowhere with so much truth as to a citizen of the United States of America.

2. COMMERCE OF PHILADELPHIA.

The Board of Trade of this city have lately published their annual Report which we obtain from the *Commercial* List.

From the rapidly increasing Coastwise Commerce of the Port of Philadelphia, caused mainly by the Coal Trade, your Board indulge the hope that at the next session of Congress, liberal appropriations will be made for constructing Piers in the Delaware river. This Port has contributed upwards of FIFTY-ONE MILLIONS OF DOLLARS to the General Government, for duties, since 1830, while the latter has not constructed a single place of shelter for vessels during storms, or when ice interrupts the navigation between this city and the Breakwater, a distance of ninety miles. Other ports, which have contributed less to sustain the Government, have received liberal appropriations. In proof of the extent of our Commerce, we find by the Custom-house entries, that the arrivals in 1848 comprised 101 ships, 353 barks, 965 brigs, 3,265 barges, 5,907 schooners, 3,629 sloops, 464 steamboats, and 9,880 boats: making a total of 24,563 vessels; of which 534 were from foreign ports. The Foreign Tonnage entered was 122,154 tons; Coastwise, 2,492,712 tons; total tonnage, 2,814,867 tons.

The supplies of Iron sent forward from the interior of this State, in 1847 and 1848, have been as follows:

1848.—ROUTE	Bar & Sheet. pounds.	Pig & Scrap. pounds.	Castings & Blooms, lbs.	Nails and Spikes, lbs.
Chesapeake and Delaware Canal,	14,988,260	88,713,098	5,536,410	1,370,293
Delaware Canal, Bristol,	1,117,515	50,733,874	109,227	*1,338,415
Schuylkill Navigation,	10,223,860	29 205,120	3,071,040	1,485,120
Columbia and Reading Railroads,	18,730,700	7,347,400	4,229,705	7,119,600
Norristown Railroad,	5,866,288	2,564,108	1,672,780	1,672,785
Totals,	50,926,123	178,563,600	14,619,162	12,986,213

* Including 1,337,225 pounds of Wire.

1847.—Route.	Pig & Scrap. pounds.	Bar, Boiler, & Sheet, lbs.	Castings and Blooms, lbs.	Nails and Spikes, lbs.
Chesapeake and Delaware Canal,	79,593,539	18,058,491	10,172,757	
Delaware Canal, Bristol,	46,558,206	327,852	461,815	
Schuylkill Navigation,	15,963,480	8,442,560	3,339,840	1,966,720
Columbia and Reading Railroads,	14,758,710	20,725,040	1,537,330	8,743,480
Norristown Railroad,	7,902,720	3,184,320	2,262,400	
Totals	164,796,455	60,738,263	17,774,143	10,710,100

The following is a comparative statement of the amount of Foreign Iron imported at this port during the last five years:

	1844.	1845.	1846.	1847.	1848.
Railroad, Tons.	8,862.19	2,797.10	73.14	———	383.13
Rolled Bar,	2,732.17	2,433.03	2,244.17	2,736.01	4,124,01
Sheet, rod and hoop,	587.05	197.06	499.06	1,686.12	1,782.16
Pig,	993.18	999.10	226.03	440.18	6,658.18
Old and scrap,	11.08	23.16	26.11	52.11	307.11
Castings,	147.06	84.15	94,17	54.04	71.15
Chains, &c.,	142,10	.08	8.10	152.04	124.09
Steele,	143.03	311.03	287.16	272.17	406.15
Anvils,	58.04	69.05	85.16	68.12	88.15
Nails and Spikes,	10.17	14.05	22.03	23.07	30.08
Hammers,	2.10	2.07	2.19	1.01	4.16
Wire,	4.03	3.02	2.03	3.03	15.18

The following table, prepared from official documents, shows the quantity of Anthracite Coal sent to market annually, from its commencement, in 1820, to 1848, inclusive,

Years.	Total Lehigh. Tons.	Total Schuylkill. Tons.	Lackawanna. Tons.	Pine Grove, Tons.	Lykens' Valley. Tons.	Shamokin. Tons.	Wyoming. Tons.	Total Supply. Tons.
1820	365	.....	.....	.....	....	.....	.....	365
1821	1,073	.....	.....	.....	....	.....	.....	1,073
1822	2,441	.....	.....	.....	....	.....	.....	2,440
1823	5,823	.....	.....	.....	....	.....	.....	5,823
1824	9,541	.....	.....	.....	....	.....	.....	9,541
1825	28,396	6,500	.....	.....	....	.....	.....	34,896
1826	31,280	16,767	.....	.....	....	.....	.....	48,047
1827	32,074	31,360	.....	.....	....	.....	.....	63,434
1828	30,232	47,284	.....	.....	....	.....	.....	77,516
1829	25,110	79,973	7.000	.....	....	.....	.....	112,083
1830	41,750	89,984	42,700	.....	....	.....	.....	174,734
1831	40,966	81,854	54,000	.....	....	.....	.....	176,820
1832	75,000	209,271	84,500	.....	....	.....	.....	368,771
1833	123,000	252,971	111.777	.....	....	.....	.....	487,748
1834	106,244	226,692	43,700	.....	....	.....	.....	376,636
1835	131,250	339,508	98,845	5,500	....	.....	.....	575,103
1836	146,522	432,045	104,500	9,978	5,439	.....	.....	698,484
1837	225,937	523,152	115,387	16,726	6,430	.....	.....	887,632
1838	214,211	433,875	76,321	16,665	6,005	4,104	.....	746,181
1839	222,042	442,608	122,300	19,227	5,372	11,930	.....	823,479
1840	225.591	452,291	148,470	19,463	5,302	15,928	.....	867,045
1841	*142,807	585,542	192,270	15,306	6,176	22,154	.....	964,255
1842	271,913	541,504	205,253	31,437	181	10,098	47,346	1,107,732
1843	267.125	677.313	227,605	22,879	....	9,870	57,740	1,262,532
1844	376,363	840,379	251,005	27,719	....	13,087	114 906	1,623,459
1845	430,993	1,086,068	266,072	31,208	....	10,135	178,401	2,002,877
1846	522 518	1,236,581	318,400	55.346	....	12,646	188,003	2,333,494
1847	643,568	1,572,794	388,200	61,233	....	14,904	289,898	2,970,597
1848	680,193	1,652,834	434,267	56,938	2,000	.....	237.271	†3,063,503
	5,505,327	11,859,150	3,392,572	384,625	36,905	124,856	1,113,565	22,417,000

* Great Freshet which injured the Canal. † Less Shamokin mines.

The Iron Trade has suffered more seriously, being brought directly in competition with Foreign Iron, which has been selling below the cost of production. Prices have materially declined since 1848. Many of the Rolling-mills in the interior of the State, are not in operation.

Comparative Commerce of the Port of Philadelphia for the years 1845, 1846, 1847 and 1848.

	1845.	1846.	1847.	1848.
Value of Imports,	$7,494,497.00	$8,308,815.00	$12,145,397.00	$11,164,147.00
Duties received,	2,370,517.71	2,420,661.78	2,904,748.97	2,762,093.11

Value of Exports to Foreign Ports annually from 1844 to 1848:

	1844.	1845.	1846.	1847.	1848.
Domestic articles,	$3,326,673	$3,413,928	$4,596,744	$7,936,087	$5,931,413
Foreign " ..	338,023	502,905	521,310	643,178	
Total,	$3,664,696	$3,916,833	$5,118,054	$8,579,265	$5,931,413

Tonnage entered from Foreign Ports:				
American Vessels, Tons	73,705	87,146	107,927	100 294
Foreign "	10,794	12,483	40,144	21,861
Total,	84,499	99,629	148,071	122,155
Arrivals from Foreign Ports, number	387	459	657	534
" " Coastwise Ports,	8,029	6,018	17,083	24,029
Total,	8,413	*6,477	17,740	24,563
Clearances for Foreign Ports	400	458	598	519

The following are some of the principal Imports at this Port during the years 1848 and 1847:

		1848.	1847.
Coffee,	bags	128,048	121,432
Cotton,	bales	45,149	39,665
Indigo,	ceroons	679	1,170
Naval Stores,	barrels	65,974	87,647
Rice,	tierces	5,634	5,094
Sugar,	hhds	43,012	31,319
Do.	barrels	7,783	15,770
Do.	boxes	35,647	56,866
Do.	bags	41,988	43 416
Molasses, Foreign,	gallons	1,991,921	2,485,738
Honey, "	"	76,466	65,698
Brandy, "	"	249,332	212,666
Holland Gin,	"	58,891	36,589
Wines, Madeira,	"	13	57
Do. Port,	"	19,698	4,421
Do. Teneriffe,	"	31,161	....
Do. Malaga,	"	13,811	30,920
Do. Sicily,	"	6,900	2,843
Do. Claret,	"	3,157	6,637
Do. White French,	"	37,767	26,176
Do. Red "	"	22,222	19,249

The comparative Exports from this Port to foreign countries in 1846, 1847 and 1848, have been as follows:

		1848.	1847.	1846.
Wheat Flour,	barrels	179,507	420,684	366,610
Rye Flour,	"	35,517	20,407	19,730
Corn Meal,	"	140,014	300,531	144,857
Wheat,	bushels	207,092	523,538	215,136
Corn,	"	817,051	1,102,210	277,820
Ship Bread,	brls and kegs	36,084	unknown	unknown

* Some of the smaller crafts heretofore entered were omitted in 1846.

The Exports of Domestic Goods, Provisions and Fish, from this Port during the past year, have been as follows:

Domestics	packages..	6,452	Lard	pounds..	3,878,643
Beef	tierces..	544	Butter	" ..	481,190
"	barrels..	3,562	Cheese	" ..	243 875
Pork	tierces..	334	Mackerel	barrels..	3,713
"	barrels..	13,180	Codfish	tierces and boxes..	427
Bacon	pounds..	4,658,805	"	pounds..	741,604

3. SHOE BUSINESS IN LYNN, MASS.

The shoe business is the life of Lynn. Only women's, misses' and children's shoes are made here. Engaged in this business there are of manufacturers, or men who "carry on" the business, 78; of cutters, or men who "cut out" the shoes, 175; of men and boys employed in making shoes, 2,458; of men and boys so employed but living out of town, 900; of women and girls employed in binding shoes, 4,925; of the same so employed and living out of town, 1,660; making of employees an aggregate of 10,058. The number of men and boys employed in making shoes is more than seventy per cent. larger now than it was in 1842. The increase of the number of women and girls employed in binding shoes has, we presume, been correspondingly great. But it should be stated that the shoe business in 1842 was unusually depressed; that much less of it was done during the last than will probably be done during the present year. The number of pair of shoes made during the last year was 3,190,000; the number purchased from other towns was 350,000; making in all 3,540,000 pairs. The cost of the material of these was $1,435,545; that of making them $957,030; making the cost of the 3,500,000 pairs of shoes to have been $2,392,575. The cost of making shoes now is about one-sixth less than it was a dozen years ago.

SOUTHERN AND WESTERN AGRICULTURAL INTERESTS.

1. SKETCHES OF TEXAS.

Alluvial Prairie—Sugar District—Climate.—The agricultural importance of Texas is attracting much attention, and nowhere is the subject more interesting than in this city, which is to be the commercial entrepot of the products of that fertile region. The writer of this article having had the opportunity of making a personal examination of a considerable part of Texas, and of comparing its productiveness with that of other southern States, is enabled to furnish some details that would doubtless be interesting to many. The Sugar region is the low alluvial prairie extending along the coast of the Gulf from the Sabine to the Nueces River, and from the coast into the interior a distance varying from thirty to one hundred miles. The whole of the prairie being, as is supposed, of alluvial formation, is, with the exception of a small proportion, less than the average in Mississippi and Louisiana, susceptible of cultivation, and some portions have a depth of soil and exuberance of fertility that is unsurpassed by the choicest lands to be found on the Mississippi River. The wooded bottoms on the rivers and small streams have the preference, from the fact that by frequent overflows the accretion of vegetable soil is greater than in the open prairie. Nothing, indeed, can exceed the beauty of the forests that skirt the rivers on both sides several miles in breadth, the magnolia, wild peach and cane, being intermingled in profusion, and furnishing evidence of an exhaustless fertility. Such especially is the character of the forests on the Trinity and Brazos. But although a discrimination is made in favor of these lands by most purchasers, so far as it respects the price, yet it is questionable whether the prairie is not, on the whole, more desirable for agriculture in the early settlement of the country. The depth of soil is sufficient—the expense of clearing off a heavy growth of timber is avoided—and the danger to health, which exists in every new country on first turning up the soil by cultivation, is much less. The lands in the vicinity of Galveston Bay have been found well adapted to the raising of sugar. On one plantation between the Bay and Trinity River, a so-

cluded piece of ground in the open prairie, which had been cultivated on an experiment, produced the last season two hogsheads of sugar to the acre, as I was credibly informed. Kennedy states, in his History of Texas, that 3,500 lbs. of sugar to the acre had, within his personal knowledge, been raised on a sugar estate.

A statement was recently published in Galveston, showing the products, during the last season, of six sugar plantations in the neighborhood of the Brazos River, exhibiting an average of one and a half hogsheads to the acre, estimating 1,000 lbs. to the hogshead; but the proportion in some of them was much greater. Indeed the cultivation of sugar is yet in too imperfect a state to admit of an exact estimate of what the capacity of the soil will be under a more improved system of agriculture, such as has been attained on the best plantations in Louisiana. It is a fair result, from all the statistics that I have seen, that under all the present disadvantages of sugar culture in Texas, the average production of the lands under cultivation is 1,800 lbs. to the acre—which, I believe, is greater than the ordinary production of Louisiana estates.

The climate of this part of Texas has been supposed to be oppressively warm; but this is not the case. The range of the thermometer is higher than it is in this latitude, taking the whole season together; but the heat of summer is by no means so prostrating as it is here at the same temperature. Indeed, the summer months are considered in Texas as agreeable, and a residence there during July and August is recommended to invalids as being more salubrious than during winter. This is owing to the constant breeze which comes up from the southeast, and which is so bracing that exercise in the open prairie is not attended with the same dangerous consequences that it is in other parts of the South in the extreme heat of midsummer. Any one, whose habits are good, will find a sense of enjoyment in that climate hardly experienced elsewhere—an elasticity of feeling that incites to enterprise and makes life agreeable. But, in order to attain this, temperance is a requisite; and it is worthy of remark, that the vice of excessive drinking, which formerly prevailed in Texas, has latterly abated under the influence of the Sons of Temperance and the better knowledge of the means of preserving health, and we may hope soon to see the same standard of respectability, in this respect, that we are accustomed to at the North.

SANDOVAL.

2. EXPORTS OF FLOUR, CORN MEAL, CORN AND WHEAT.

The subjoined statement of the export of these articles from the United States to foreign countries, during the years mentioned, and the prices paid at the place of exportation, was obtained from the official reports to Congress, and is copied from the New York *Evening Post:*

	FLOUR.			CORN.	
		Prices paid.			*Prices paid.*
Year.	Bbls. exported.	Per bbl.	Year.	Bushels exported.	Per bu.
1840 to 1841	1,515,817	$5 12	1840 to 1841	723,572	54
1841 to 1842	1,283,602	5 74	1841 to 1842	600,308	57
1842 to 1843	841,474	4 47	1842 to 1843	672,608	42
1843 to 1844	1,438,574	4 70	1843 to 1844	825,282	49
1844 to 1845	1,195,280	4 22	1844 to 1845	840,184	49
1845 to 1846	2,289,476	5 23	1845 to 1846	1,826,068	65
1846 to 1847	4,382,406	5 96	1846 to 1847	16,326,050	88
	CORN MEAL.			WHEAT.	
1840 to 1841	231,284	2 94	1840 to 1841	868,586	94
1841 to 1842	209,199	2 95	1841 to 1842	817,950	1 12
1842 to 1843	174,354	2 60	1842 to 1843	311,986	75
1843 to 1844	247,882	2 58	1843 to 1844	558,917	89
1844 to 1845	247,882	2 58	1844 to 1845	389,718	86
1845 to 1846	298,790	3 16	1845 to 1846	1,623,795	1 04
1846 to 1847	948,060	4 65	1846 to 1847	4,399,951	1 33

The amount received by the people of the United States during the year ending June 30, 1847, for flour, corn, corn meal and wheat, exported to foreign countries, was $50,879,701, exceeding the amount they would have received at the prices of 1844 and 1845, for a like quantity, upwards of $17,000,000.

SOUTHERN MANUFACTURES AND INTERNAL IMPROVEMENTS.

1. COTTON AND COTTON MANUFACTURES AT THE SOUTH.*

COMPARATIVE COST AND PRODUCTIVENESS OF COTTON, AND THE COST AND PRODUCTIVENESS OF ITS MANUFACTURE: BY CHARLES T. JAMES.

It does not necessarily follow, that, because one man may accumulate wealth by the culture of cotton, and another by its manufacture, one-half the community should engage in the former process, and the other half in the latter. The extent of the business should be regulated by the demand in market. It will then be sound, healthy, and productive. Every bale of cotton made, and every piece of cloth manufactured, beyond this, is so much thrown away, because they serve to lessen the value of the entire product in the ratio of the overplus True, modes of operation may, from time to time, be devised to cheapen the cost of production and this may also increase the demand; because, as a general rule, persons will purchase more of a cheap article than of a dear one. Still, even in this case, the rule holds good; for more of a *cheap* article may be produced than *can be consumed*; and in this case, the business would become as completely profitless and ruinous, as though the article were dear. But there are wants in the community of great number and infinite variety. All want bread, apparel, and other articles of living. All want dwellings. All want furniture for their dwellings. Almost all want articles for ornament. In short, the wants of all are such as to call for the products of a vast many trades and professions; and the great secret of wealth and prosperity, as well as comfort and contentment, consists in the supply of all these wants on moderate terms to the consumer, and at a profit to those who supply them. No one of these results can be attained without a proper distribution of labor, skill and materials, appropriating to each branch of industry its proper share, in order to meet promptly all demands, to proportion prices in the ratio of original cost, and not to overstock the market with any one product. This is also as necessary to the operative and working man as to the employer. As the consequence of an overstocked market, the workingman and operative feel the depression in the reduction of wages, and the consequent curtailment of the comforts of life. Extreme poverty in the masses, is an actual curse to any people, and business should, if possible, be so conducted as to prevent it.

We may now be asked, if the proper application of the elements of wealth will ensure the comforts of the laboring classes as well as the pecuniary prosperity of the employer and the community, how happens it that the manufacturers of Great Britain enrich themselves while a great proportion of the operatives are reduced to a state of absolute destitution? The reply is at hand. As a nation, Great Britain has applied her labor and skill to branches of industry which have proved most productive of wealth; but, as a people, labor and skill have not been properly distributed. It must be recollected that, in England and Ireland, most of the lands are monopolized by a comparatively few persons, in large tracts. Few persons who actually cultivate the earth, have any further interest in the soil they till, than simple temporary leaseholds, at high rents. The consequence is, few farmers are, like ours, able to provide for their children—most of whom, as they become able to do anything, are under the necessity of going to trades, entering manufactories or coal mines, going to service as servants, becoming inmates of the poor-house, begging, stealing, or starving. For this reason, every trade and every manufacturing establishment is overstocked; and as an over-supply of labor, like that of every other article, always reduces its market value, mechanics' and operatives' wages, in England, in the mass, are too low to furnish the merest necessaries of life; while in Ireland, even the tiller of the ground is not near as well fed and cared for as the slave population of the southern States. If land were distributed as in the United States, many thousands, now paupers, would be engaged in raising agricultural produce and provisions for themselves and others, and for the want of which thousands suffer. This would effect a proper distribution of labor. The number of agriculturists would be increased, as well as the necessaries of life—the number of

* Continued from August Number.

mechanics, operatives, &c., would be diminished, and their earnings enhanced. The monopoly of the soil in the hands of the aristocracy, and the appropriation of vast tracts to purposes of taste, sport and pleasure, prevents all this. Besides, there is the interest on the national debt, nearly $130,000,000, which, with the current expenses of government, makes up in all the enormous sum of $260,000,000, to be paid annually by taxes and customs, which, from whatever source derived to the government, falls at last on the labor of the people. How can it be otherwise, than that a people made, in a measure, the serfs of a landed aristocracy, and having their industry thus taxed, should be otherwise than paupers, or the pauper's next door neighbor?

With us, it is different. We have no land monopoly, and no royal bantlings and titled aristocracy to support. With us, persons may consult their own inclinations, and become farmers, mechanics, operatives, or almost any thing else they please. A man may apply himself to one occupation, and if the results do not meet his expectations or his wishes, he may turn his hand to another. The facility with which land is obtained, and its small cost, induce thousands to become farmers, who would otherwise seek other employments. These have no landlords to pocket their earnings, and no national church to suck the life-blood from their veins. They are free, independent, thrifty, and happy. Hence, agricultural products become abundant and cheap, and the mechanic and operative, instead of being reduced to pauperism by extreme competition and oppressive taxation, is able to supply himself with the comforts of life, and with many of what the poor oppressed British workingmen would call its luxuries. The British capitalists apply the elements of wealth so as to create the greatest aggregate product; but in America, though in many cases they might be applied in a more productive manner, yet, in their distribution, they are far more productive of general good than in Great Britain. For this superiority, we have mainly to thank our republican institutions and feelings.

Another important object, in order to operate to the best possible advantage in the prosecution of any productive branch of business, is, that the trade or manufacture should be carried on, at the place where the greatest facilities exist, all other things being equal. Such has been the policy with respect to British trades and manufactures, and such, for obvious reasons, should it be in this country. In Great Britain, they had no cotton, and therefore lacked that facility. The article was to be imported from distant foreign regions, at a heavy expense, as it now is. This was, and ever has been, a great drawback on the profits of the British manufacturer. But, to make up for this drawback, he has an abundance of skill and cheap labor. On the contrary, the grower had the raw material and the labor on his own plantation, but lacked the skill. Without the latter he could not manufacture, and therefore sent his cotton to the British market. By that means he brought into requisition the skill and cheap labor of that country, and thus enabled her to monopolize, at a great profit, at least for a time, the business of manufacturing cotton, and to supply the markets of the civilized world with the manufactured article. In this way the cotton planter has aided the British empire, in making very large additions to the wealth of the nation. Some idea may be formed of the importance of this branch of business in Great Britain, when we state that its various departments embrace nearly one-half of the external trade of that country, and that about a million and a half of persons depend on it for support. Under different circumstances, there might have been a different result. Had the cotton growing regions possessed the British manufacturing skill, and found it more profitable to manufacture the raw material than to dispose of it in a foreign market, little, if any more, would have been produced than could have been manufactured at home. Great Britain would then have been deprived of the material, one of the essential elements of her great wealth, and which she could neither have produced nor purchased. At this time, she would have by no means been what she is, in point of wealth and greatness. The cotton growing regions would have saved to themselves the amount paid on their produce, for profits, commissions, freights, insurance, &c. and, till within a few years past, heavy duties in British ports. They might have supplied every market in the world with the manufactured fabric, and thereby have realized the profits accruing from the manufacturing process, as well as from that of culture. Considering the vast amount of wealth created in Great Britain by the manufacture of cotton, what might now have been the con-

dition of our own States, and especially those of the South, had all our cotton been wrought at home, instead of being, in its raw state, transported across the Atlantic for a market. In order to illustrate this point, we will refer to British statistics.

Except a comparatively small quantity in the East Indies, and an inconsiderable quantity in the West Indies, no cotton is produced in the British dominions. That raised in the East Indies has to be transported twelve thousand miles, to reach the manufactory. In fact, the entire quantity of cotton supplied to the manufacturers of Great Britain, from all the world except the United States, is less than one-fifth part of the actual consumption. The remainder is supplied by our own cotton growers. In the year 1840, there was entered, at the different ports in the kingdom, 592,965,504 pounds. The United States furnished 488,572,510 pounds—more than four-fifths of the whole. Of the above quantity (592,965,504 lbs.) 531,197,659 pounds were entered for home consumption—the remainder, for re-exportation. Suppose the above to have been all the cotton raised in the world—Great Britain must then have curtailed her manufacturing operations four-fifths, provided the United States had manufactured all their own cotton; that being somewhat less than the proportion furnished by them.

On the supposition here stated, had all the cotten exported from this country to Great Britain been manufactured here, under circumstances similar to those connected with manufactures there, it is quite evident that the amount of wealth there created by the business, would have been added to the wealth of our own country. It may be said, there are cotton growing countries, besides the United States, and manufacturing countries in Europe, other than Great Britain; and that, consequently, the American cotton planter and manufacturer could not monopolize the market of the world. Hence it will be said, Great Britain could derive supplies of cotton from other sources, and, with other manufacturing countries which could do the same, still control the markets. All this is more easily said than done.

2. DE KALB FACTORY, SOUTH CAROLINA.

There has been so little said about the DeKalb Factory and its various improvements, in the public prints, that it is often overlooked as an evidence of southern skill and enterprise. A visit to the Factory a few evenings since enabled us to gather the following facts, which we give our readers, as much to show the energy and enterprise of the *Monumental Town*, as to prove that the South can embark with success and profit in that channel of human industry.

The stock is divided into four shares; Thos. Lang, Thos. J. Ancrum, and William Anderson, owning each a share; the fourth is owned by A. Young, and William Gardner, the skillful superintendent, whose personal attention is constantly given to the various branches of the establishment. The Factory was established in 1838, with 1,000 spindles, for making *yarn*, but up to 1846 they were gradually increased, so that now they nearly double that number. 1,680 spindles and 40 looms now run daily, making *yarn* and cotton *osnaburgs*, and consuming cotton equal in amount to a mill of three or four thousand spindles, according to calculations usually made at the North.

The annual consumption of cotton is about 360,000 pounds. Last year over 1,000 bales were consumed, and during the past month 99 bales were worked up, making 8,205 pounds *yarn*, and 47,953 yards *osnaburgs*. The *osnaburgs* weigh half a pound to the yard, and are well known in the northern and southern markets—and we learn from one of the Company, that they always commanded a higher price than those made at the North. The monthly expense of the establishment is something less than $900. Most of these figures were taken from the Books of the Company, and can be relied on as being correct.

There are about twenty weavers employed, all white females, each one attending to about two looms—one or two to more—and each receiving wages from twelve to twenty dollars per month—an amount far greater than they realized before their connection with the Factory, and sufficient to secure the necessary comforts of life, and create a small sinking fund if desired. For several years past, *blacks* were the principal operatives, except in the department of weaving; but *white* operatives are now generally employed, because they are less difficult to procure. The *blacks* have been discharged, except about thirty that belong

to the Company—the *white* operatives number now seventy-two, male and female. We are informed that the experience of the Company is, that the *blacks*, as operatives, can compare favorably with the *whites*, and under some circumstances may be preferred. We believe the Company have never realized less than ten per cent. upon their capital, but they have constantly invested the profits in additional improvement, so that the sum now invested is about double the original stock.

The enterprising proprietors have not confined their operations to making *yarn* and *osnaburgs*, but use their immense water power to drive other machinery.

A Grist Mill brings to the Company one thousand bushels of corn in toll, and the Mill to grind bark, supplies an extensive Tannery at hand, where large quantities of good leather are prepared. In connection with the *tannery*, a Shoe Factory has been in operation for some years, where an excellent article of *negro* shoes, pegged and sewed, is made, of which thousands are sold annually, far superior, we believe, to the northern made shoe sold at the same price. The workmen belong to the South, and use leather tanned at their very door. It is truly gratifying to observe such unmistakable evidences of southern enterprise, and the important duties taught the South, by their success in so many departments of human labor.

The Factory Village, where the operatives reside, is pleasantly situated. One hundred and fifty-four constitute the white population, and their neat cottages and thriving gardens present a handsome appearance, indicative of comfort and contentment.

The moral and mental culture of these families receive great attention. A daily school for their children is kept through the week, and at eight o'clock every Sabbath morning members of the various churches in town meet them in Sunday School, which we are informed is well attended by old and young, and is in a highly prosperous condition. But this is not all.

On every Sabbath evening at five o'clock, some one of the divines in town, preaches in their newly erected place of worship, This duty is performed by the preachers alternately, and we believe they never fail to meet a full congregation. We are told that this little *Village* can well compare, in point of morals and good order, with any in the Union, of the same size, and doubtless much of it is attributable to the interest manifested by the church in town in their spiritual welfare.

If the example of this energetic Company, in carrying on successfully various departments of mechanical industry, were judiciously followed throughout the country, *non-intercourse* with the North would not appear so utterly impracticable as some have imagined it; and the South, prospering in the rapid development of her resources and energies, would steadily advance in wealth and importance, self-sustained and independent of the world.—*Camden Journal.*

3. MOBILE AND OHIO RAILROAD—No. 2.*

"The survey of the entrance to Mobile Bay proves that remarkable changes have taken place since the survey by Major Kearney, United States Topographical Engineers, in 1822, and that by Major Ogden, United States Corps of Engineers, in 1841." "In 1822 the greatest depth which could be taken over the bar was seventeen feet; in 1841, it was nineteen feet; in 1847, it was twenty and three-quarter feet, each at mean low water." "With the present depth, our heaviest steam frigates can enter and find secure anchorage in Mobile Bay; and, should the depth continue to increase in the same ratio it has for the last six years, it will not be long before our largest frigates may do so also."

While the entrance to this harbor is in a state of transition, that of Pensacola is supposed to have arrived at nearly its stationary point; so that, at the present ratio of progression, in a few years, a greater depth may be carried over the bar into Mobile Bay, than into any other harbor of the Gulf. At present, ships of large tonnage are compelled to anchor in the bay, about twenty or twenty-five miles below the city, and employ lighters to receive and discharge their cargoes; as vessels drawing more than eleven feet cannot come to the wharves. Mobile River is divided, a few miles above the city, into several channels, one of which debouches at Mobile, while a larger body of water (Spanish River, as it is

* Continued from September number.

named), diverges to the east, and empties into the bay on the opposite side of the island which it forms. By erecting a dam or pier at the head of this island, across Spanish River, it is believed that the whole may be made to flow in a single channel past the city and find its outlet into the bay at that point. This would produce a current sufficiently powerful to wash out the channel speedily, and, with a moderate expenditure, water enough could be obtained to bring at all times the largest ships to the wharves.

Mobile is more accessible from the Gulf than New Orleans. She is nearer Havana than either New Orleans or Charleston, and is better situated than either of those cities for supplying the great valley with West India products. A central position on the Gulf—an elevated and healthy location—an abundant supply of pure water—the best harbor on the coast; all these elements combine to make Mobile the most favorable point that could be selected for the terminus of a great trunk, like the projected railway to the Ohio.

To a private citizen of Mobile, M. J. D. Baldwyn, Esq., belongs the honor of originating this magnificent project. The continuous and rapid diminution of the trade of Mobile with the interior for several successive years, the marked change in the character of that trade, and the inevitable transformation, not far distant, of one of the most active commercial cities of the South, into a mere depot for the storage and transhipment of cotton bales, had forced upon the consideration of reflecting men an inquiry into the causes of this depression, and by a natural sequence led them in quest of a remedy for the evil. The active mind of Mr. Baldwyn was the first to comprehend the immense importance of a railway connection between the Ohio and Mississippi valleys and the Gulf of Mexico, and the favorable position of Mobile for its southern terminus. Undismayed by the magnitude of the project, he sought to enlist the public feeling in its behalf, and soon succeeded in awakening a deep interest among his fellow citizens. This resulted in a call for a public meeting, which was held accordingly in the city of Mobile on the evening of January 11th, 1847, and was numerously attended. From that period may be dated the birth of this gigantic enterprise.

Tennessee was the first State to bestow a charter upon the Mobile and Ohio Railroad Company; and with a just appreciation of the true interests of her people, she sought to encourage the prosecution of the work by the most liberal provisions, and accompanied the instrument with a noble testimonial of favor, in the shape of a State subscription of over $600,000. The legislature of Alabama soon after passed an act incorporating the Company, with a capital of $10,000,000; which was followed by Mississippi and Kentucky, with grants of the right of way through those States, and an extension of all the chartered privileges appertaining to the company under their act of incorporation in Alabama. In May last, books were opened in Mobile for subscription to the capital stock, and in twenty days the sum of $650,000 was subscribed in that city. The company was then organized by the election of president and directors, who are actively engaged in the prosecution of the necessary steps preliminary to the commencement of the work. Having thus briefly alluded to the inception of this great enterprise, and its progress to the present time, we proceed to examine its merits as an investment for capital.

A careful examination of the country has been made by Lewis Troost, esq., engineer, whose reconoissance has resulted in the discovery of the entire feasibility of the project, and in the recommendation of the following, as the most favorable route:—Commencing at Mobile, the route proposed extends up the valley of the Chickasawbogue, until it strikes the dividing ridge between the Tombigbee and Escatawba rivers—follows this ridge to the head of the Escatawba—from thence, continuing its general northerly direction, and passing near the towns of Marion, Macon and Aberdeen, Mississippi, to the Tennessee River, in the State of Tennessee, below the Big Bend Shoals, a distance of about 340 miles from Mobile. From thence, through the towns of Jackson and Trenton in Tennessee, and Moscow in Kentucky, to its terminus on the Mississippi River, at the town of Columbus, Kentucky, 16 miles below the mouth of the Ohio River, and 470 miles from Mobile.

This will be the longest railroad in the United States under a single charter. Great as is its length, however, the general surface of the country is so singularly adapted to its favorable construction, that the route need vary little from

an air line connecting the termini. The absence of large streams (the longest bridge required being over Obion River, in the State of Tennessee, about 180 feet span), the freedom from all obstacles in the way of heavy rock excavations, as shown by the reconnoissance of Mr. Troost, the abundance of suitable timber, the light grade, which is either level, or descending toward the Gulf, in the direction of heavy freights—these are characteristics which are seldom found united, but which exist here. From these facts, it may well be doubted whether a railroad of considerable length could be built between any other two points in the United States at as small a cost per mile, or one capable of transporting freight and passengers at as cheap a rate with profit to the stockholders.

By comparing Mr. Troost's report of the topographical character of the country upon the route of the Mobile and Ohio Railroad, with the cost of other works already completed in the South, in sections presenting similar general features, we are enabled, in the absence of an accurate instrumental survey,* to make a reasonable approximation to the amount required to construct and equip this road, ready for business. The following estimates, made upon this basis, it is believed, will be found to exceed, rather than fall short of, the actual cost of this work:

Cost of grading (including bridges and culverts) ready for superstructure, 470 miles, at an average of $3,500 per mile,	$1,645,000
Cost of superstructure, counting the rail at 56 pounds to the yard, and the iron at $65 per ton of 2,240 pounds, including depots, water stations, side tracks, &c., &c., at $9,780 per mile,	4,596,600
Cost of locomotives, freight, baggage and passenger cars, &c., &c., to place the road in efficient working condition, say	400,608
Total cost of road and equipments,	$6,850,000

Being a little over $14,500 per mile.

This railroad, when completed, must depend upon the following sources of revenue:

1st. The travel and freight supplied by the country along the line.

2d. The through travel, and such portion of the freight passing between the mouth of the Ohio River and the Gulf of Mexico, as can be diverted to the railroad from the Mississippi River.

3d. The transportation of the mails.

First. The local trade and travel. The following table, prepared with care, and based upon the estimates derived from Patent Office Reports, and other reliable sources, exhibits the population and resources of the country through which the Mobile and Ohio Railroad will pass, and the adjacent sections, which will be dependent upon and furnish traffic to that road:

POPULATION AND PRODUCTS OF COUNTRY ON THE ROUTE OF MOBILE AND OHIO RAILROAD IN 1847.

Twelve counties in Alabama, namely, Mobile, Washington, Choctaw, Sumpter, Pickens, Fayette, Franklin, Lauderdale, Lawrence, Limestone, Madison, Morgan:

Population,	241,500	Pounds of wool,	190,000
Bushels of wheat,	450,000	" tobacco,	177,000
" corn,	10,400,000	Number of horses and mules,	55,500
" oats,	686,600	" neat cattle,	222,200
" rye,	26,250	" sheep,	108,150
" potatoes,	394,000	" swine,	598,000
Tons of hay,	3,000	Poultry, value,	$173,100
Pounds of cotton,	71,000,000		

Nineteen counties in Mississippi, namely, Attala, Chickasaw, Choctaw, Clark, Itawamba, Kemper, Lafayette, Lauderdale, Lowndes, Monroe, Neshoba, Newton, Noxubee, Oktibbeha, Pontotoc, Tippah, Tishamingo, Winston, Yallabusha:

Population,	227,500	Pounds of wool,	130,200
Bushels of wheat,	372,300	" tobacco,	130 000
" corn,	5,604,500	Number of horses and mules,	57,500
" oats,	459,300	" neat cattle,	275,000
" rye,	7,650	" sheep,	65,100
" potatoes,	341,600	" swine,	528,300
Tons of hay,	350	Poultry, value,	$212,700
Pounds of cotton,	67,500,000		

* Such a survey will be commenced early in November, under the direction of John Childe, esq., as Chief Engineer. [For this survey, see Com. Rev., July, 1849.—ED.]

Twenty counties in Tennessee, namely, Benton, Carroll, Dyer, Fayette, Gibson, Hardeman, Hardin, Haywood, Henderson, Henry, Hickman, Humphreys, Lawrence, McNairy, Madison Obion, Perry, Stewart, Wayne, Weakley:

Population,	258,100	Pounds of wool,	502,100
Bushels of wheat,	2,625,000	" tobacco,	15,874,200
" corn,	14,804,350	Number of horses and mules,	96,500
" oats,	1,884,400	" neat cattle;	295,400
" rye,	54,600	" sheep,	251,500
" potatoes,	648,000	" swine,	1,047,600
Tons of hay,	8,100	Poultry, value,	$239,200
Pounds of cotton,	18,270,000		

Six counties in Kentucky, namely, Ballard, Calloway, Graves, Hickman, McCracken, Marshall:

Population,	34,200	Pounds of wool,	92,300
Bushels of wheat,	228,000	" tobacco,	2,550,000
" corn,	2,180,000	Number of horses and mules,	14,850
" oats,	634,500	" neat cattle,	33,150
" rye,	13,250	" sheep,	46,150
" potatoes,	90,500	" swine,	105,500
Tons of hay,	1,950	Poultry, value,	$27,500
Pounds of cotton,	550,000		

RECAPITULATION.

Population,	761,300	Pounds of wool,	914,600
Bushels of wheat,	3,675,300	" tobacco,	18,671,200
" corn,	32,988,850	Number of horses and mules,	224,350
" oats,	3,664,800	" neat cattle,	825,750
" rye,	101,750	" sheep,	470,900
" potatoes,	1,474,100	" swine,	2,279,400
Tons of hay,	13,400	Poultry, value,	$652,500
Pounds of cotton,	157,320,000		

These fifty-seven counties embrace an area of more than 35,000 square miles, and comprise within their limits some of the most fertile lands of the South. Much of the country is remote from market, and, consequently, is comparatively new and unsettled. The stimulus given to the growth of these districts by the construction of a railroad through them, would fill them up rapidly with an active population, which would furnish a constantly increasing traffic to the road. If we may be allowed to judge of the local support that would be rendered to the Mobile and Ohio Railroad, from a comparison with the population and resources of districts traversed by other railroads, and the business they create, we must conclude that this source of revenue alone would yield a moderate income to the stockholders.

4. MINERAL RESOURCES OF ARKANSAS.

There can scarcely be mentioned a single ore or mineral which is not found in our State. Iron, copper, lead, tin, silver and gold; limestone and marble, for useful and ornamental purposes; roofing slate and other durable materials for construction; sands for the manufacture of glass; clays of all grades, from those suitable for the finest porcelain, down to the common brick; salt and alum, marls and other mineral manures, proper for the improvement of the soil, etc., all scattered far and wide throughout our State, and all lying like so much waste material, because we lack the enterprise to make a single effort to give publicity to these facts in such a manner as will attract attention from abroad!

There is probably no other State in the Union, more plentifully supplied, with more valuable deposits of iron; and yet, while the citizens of other States are amassing wealth by their furnaces and forges, there is not, we believe, a single furnace in operation within our limits. In the northern portion of our State, in the White river region, where the facilities for water power are without limit, and where the means of transportation are as convenient as could be desired, the beds of iron are inexhaustible, copper is abundant, and silver has lately been discovered in considerable quantities.

The only point at which lead is successfully mined, is in the vicinity of this city; yet from the discoveries that have been made, it is believed that the practiced eye of a geologist would be enabled to detect throughout the vast region between these "diggins" and the northern boundary of our State, many locations where this valuable ore might be profitably raised.

In the mining operations now going on near the city of Little Rock, one cannot help admiring the energy and perseverance with which the hidden treasures are sought for and obtained. But a few months ago, a small parcel of ore taken from the bed of a branch, was all that was visible; now the earth literally groans under the weight of the immense masses of ore

piled upon its surface. At the vein recently discovered, two miners have taken up at least eighty or ninety tons of mineral within the last four weeks, a large proportion of which is argentiferous lead ore. This makes three regular and well-defined veins, proven to be of great value, besides eight or ten others in prospective, all discovered on an area of not exceeding two acres. The same indications that exist at these mines, present themselves over a vast extent of country, as yet entirely unexplored.—*Arkansas Democrat.*

EDITORIAL NOTES, ETC.

1. BARNWELL'S TRANSLATION OF GIRARDIN.

Lectures on Dramatic Literature, or the Employment of the Passions in the Drama, by Saint Mark Girardin, translated from the French by Robert G. Barnwell, of New Orleans. New York, Appleton & Co.; New Orleans, J. B. Steel, 1849.

The moral of this work is excellent, and it admirably contrasts the ancient and modern dramatic schools, showing the peculiarities of either. The passions are analyzed and compared with profound critical discrimination, and every thing false in their exhibition justly censured. When it is reflected that in all times and in all countries the drama has been illustrated by the highest efforts of human genius and power, we can well imagine the discussions and criticisms of the work before us to possess the keenest interest and to be replete with the most valuable instruction.

Mr. Barnwell, whom we are pleased to acknowledge as a warm personal friend, has performed with fidelity the duties of translator, and will, we hope, be compensated for his labors by a liberal public. The chief defect that we have noticed in his work, is a too literal rendering of language into language, which has the effect of marring occasionally his otherwise most excellent English.

2. NOTT ON THE PHYSICAL HISTORY OF MAN.

Two Lectures on the Biblical and Physical History of Man: delivered by invitation from the chair of Political Economy, etc., of the University of Louisiana, in December, 1848, *by Josiah C. Nott, M. D., of Mobile. New Orleans, J. B. Steel—B. M. Norman, etc.,* 1849.

Having invited Dr. Nott to deliver these lectures before our chair in the University, regarding the science of Political Economy incapable of completion without some reference to the natural history of man, we regretted the unfavorable circumstances which prevented a large attendance, and requested Dr. Nott to commit them to print for the benefit as well of the public at large as for that of the intelligent audience who were present. Dr. Nott has complied with the request, and the elegant volume before us is the result.

Ethnological researches, or those relating to the mental and physical differences between mankind, are now being prosecuted in Europe and this country with great zest and ability. Many new and remarkable facts and principles are being developed which must in time have great influence upon the systems of economy and legislation which are formed. If the *unity* of the human race, meaning their common origin from one parent stock, ever falls to the ground, it is evident, unless we favor the "bed of Procrustes," many of the principles now deemed *universal* must go with it. We are not afraid of truth, from any quarter or on any subject, whatever may be the result. Man's progress is only truly onward, when error is dissipated in his path.

Hereafter we shall make some valuable extracts from these lectures, which relate to the *Negro* as a distinct race incapable of assimilation or unassisted progress, and which show up the absurdities and wickedness of the abolitionists and their schemes in colors which are unfading.

Dr. Nott does not desire, but does not fear discussion and criticism. He separates himself in no wise from the Bible, but claims for his views a perfect harmony with it in all those points where that sacred work undertakes to teach and where it is correctly expounded. It will be remembered that several years ago Dr. Nott, who is at the head of the medical profession of Mobile, conducted through the pages of the *Southern Quarterly Review* an elaborate and protracted discussion upon these points, in which he asserted, defended and maintained, his position with great strength of reasoning and erudition. The present volume is a further expression of the subject, aided by the new light which it is every day receiving.

3. M'CULLOH ON SUGAR, ETC.

Reports in relation to Sugar and Hydrometers, by Professor R. S. M'Culloh, Philadelphia, 1849.

We are indebted to Professor M'Culloh for a handsomely bound copy of the new edition of his Sugar Reports, containing much additional matter. As we have no doubt that this work will be extensively circulated in Louisiana, it will not be necessary for us to enter into any

analysis of it, which has indeed in the old edition been pretty well done already. It contains a vast quantity of information upon the subject discussed, taken in every point of view, and we take to ourselves some credit in being the only periodical in America addressed to the sugar interests—being the first, too, to advocate them. In the work of Prof. M'Culloh will be found, perhaps, one hundred references to the volumes of the *Commercial Review*, and the able practical writers it has furnished. Should not this stimulate the sugar planters to extend us a hearty support, which has, alas! been never yet vouchsafed? We have even lost support from other sources by talking too much about sugar.

4. FENNER'S MEDICAL REPORTS.

Prospectus of a volume to be published annually of Southern Medical Reports, including the subjects of Meteorology, Medical Topography and Diseases, by E D. Fenner, M. D., of New Orleans.

We wish all success to this proposed enterprise from our friend, Dr. Fenner, who is one of the most energetic, laborious and useful medical writers of our times—who was one of the parents of the New Orleans Medical Journal, long one of its editors, and always first among its contributors. We commend him and his labors to the courtesies and support of the profession.

5. TO SUBSCRIBERS AND CONTRIBUTORS.

We beg those who are indebted for the old series of the Review, or for the volume which is now in course of publication, to remit us promptly their dues through the mail, without waiting for the call of an agent, which is always an expense to us of twenty-five to thirty per cent., and which takes away almost all the profits of the Review. If our subscribers would pay us in this way, it would be easier to them, prevent us from being ever embarrassed, and enable such improvements to be put upon the Review as would soon carry it to highest perfection. They may send bills of any good bank, or an order upon New Orleans factors. Let us beg, too, that each will exert himself to add to our lists at least one new subscriber.

We have on hand for the next number several able articles, and assure all who have not yet been attended to, that their time will soon come. After a short absence, the editor will be again, he trusts, at his post in New Orleans, very long before the appearance of this number, and will remain there steadily, except to attend the Memphis convention, until next August.

The circulars of the Census Board and the Patent Office, Washington, have been received and will be attended to.

6. TO THE PLANTERS.—SUGAR AND COTTON.

The importance of an AGENCY in New Orleans in connection with the Review, to aid the planters in the *purchase and sale of estates*, has frequently suggested itself. We have determined to start it. As the Review circulates largely in all the southern and western States, and is now getting a northern circulation, planters will have an opportunity of offering their estates to the best advantage. They will be charged for the advertisement of estates, according to the space occupied, and time advertised, *on reasonable terms*, in the pages of the Review, as will be agreed upon. When sales are effected through the AGENCY, the usual commission will be charged. *Editorial notices* will be called to the estates. Messrs. H. Weld & Co., publishers of the Review, able and energetic business men, will take *exclusive* charge of this department. In the present number we call attention to a large plantation in Attakapas, Louisiana, among our advertisements.

☞ All letters relating to the business of the Review will be directed to Weld & Co., New Orleans; all relating to editorial, to J. D. B. De Bow, care of Weld & Co., publishers Commercial Review, New Orleans.

7. OUR BOUND VOLUMES COMPLETE.

We have still a few sets remaining of the Old Series of the Commercial Review, in handsomely bound volumes, 1846—1849. We wish those of our subscribers who have not the work complete would order them, or have them taken by the public or private libraries in their vicinity. In a short time it will be impossible to obtain them on any terms, as the edition printed was small. We are anxious to distribute the volumes, and will deliver them at any points.